Leica
PHOTOGRAPHY

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Leica

PHOTOGRAPHY

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The editors are happy to consider original articles on photography with the Leica and photographs taken with Leica cameras and lenses. All manuscripts and photographs should be accompanied by stamped, self-addressed return labels.

COVER

Hugh Bell

Using straight photographic technique, the photographer has emulated the look of a fine theatrical painting. The unusual color and grain effect is the result of enlarging a portion of the original transparency, Daylight Ektachrome exposed under mixed fluorescent light and window light. The poignant expression on the face behind the mime's make-up, however, is unmistakably photographic, captured from some distance with an 85mm Summarex f/1.5 on a Leica IIIf. Exposure: 1/25 sec., with aperture set at f/2.

◀ INSIDE COVER

Elliott Erwitt

Fishing pier, Fernandina, Florida. 1950. IIIc, 50mm Summarit f/1.5. *See page 4.*

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one-man show

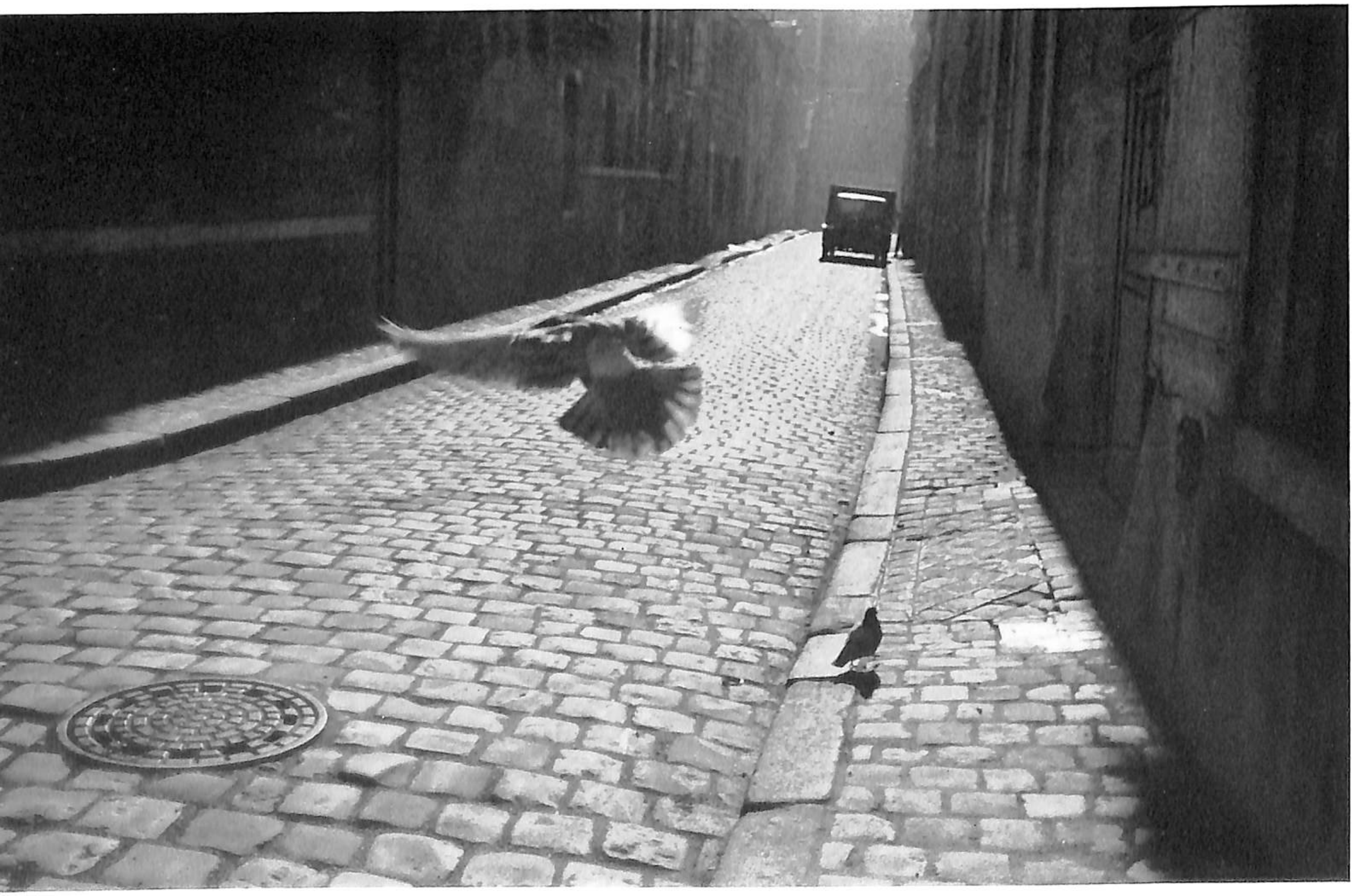
ELLIOTT ERWITT, photojournalist

Appearing here from time to time:
selections from the finest work of
photographers in different fields.

Although a busy and successful photojournalist at 27, Elliott Erwitt, like all of us, treasures most the moments when his Leica becomes an integral part of his awareness of life around him. As you will see in this exhibit of some of his most personal work, Erwitt has the rare combination of a sense of humor and a sense of pathos, plus a remarkable ability to snare from the flux of life the crucial moment in which these seemingly contradictory qualities are juxtaposed.

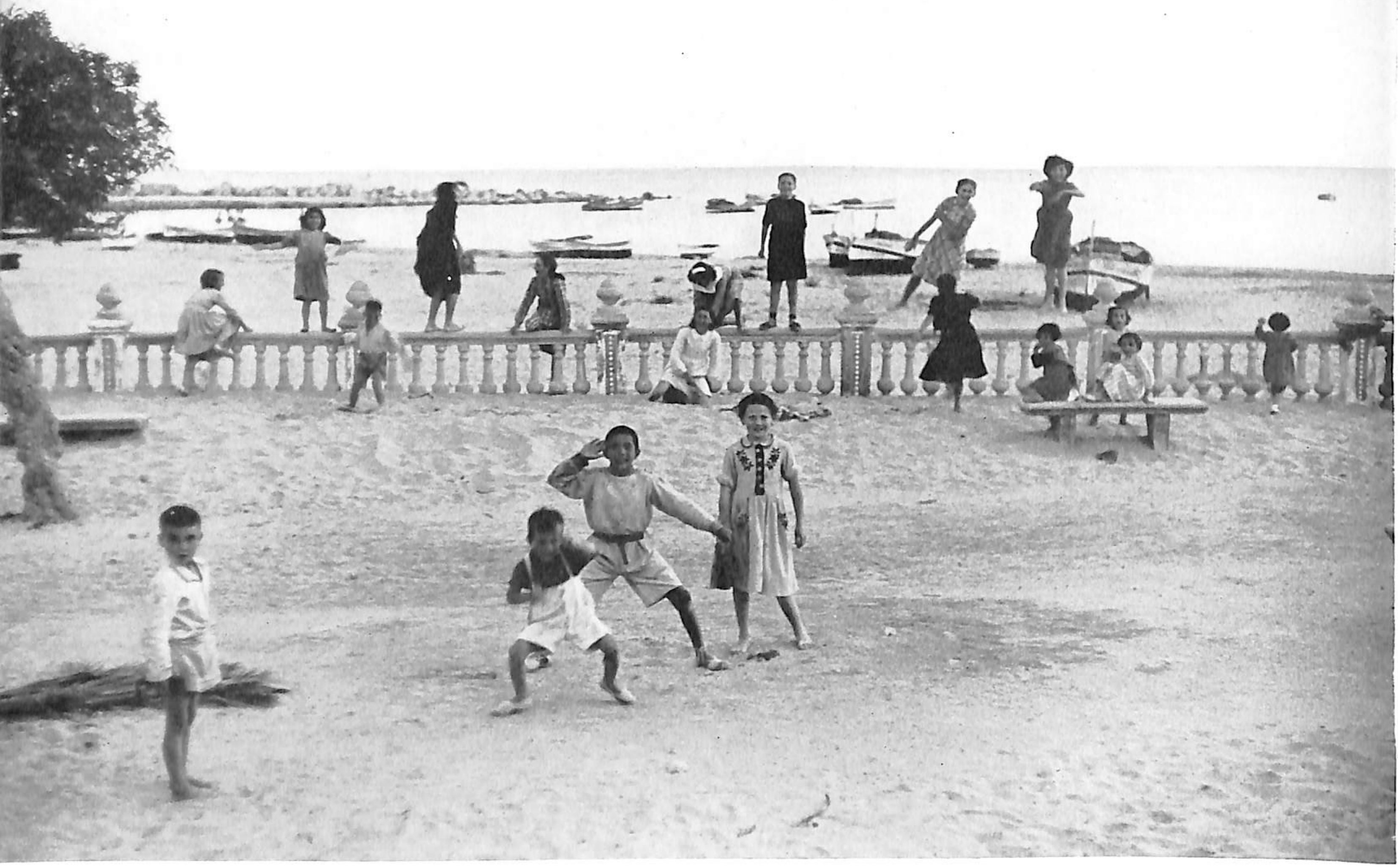
What makes a photographer so concerned with how life looks? And how can he be so successful in "telling" us through his pictures what it is that he sees, feels, or even thinks? It is not often that a 27-year-old can capture so much meaning with the click of a shutter, especially if, like Erwitt, he is busy carrying out big assignments for *Holiday*, *Fortune*, *Vogue* and *Life*.

But there is one thing that keeps Erwitt's vision fresh and individual—perhaps the same thing that keeps him going as a magazine photographer always on call. It is his love for what can be done with a camera: the knowledge that once technique is mastered, once the mechanical precision *(continued on page 9)*



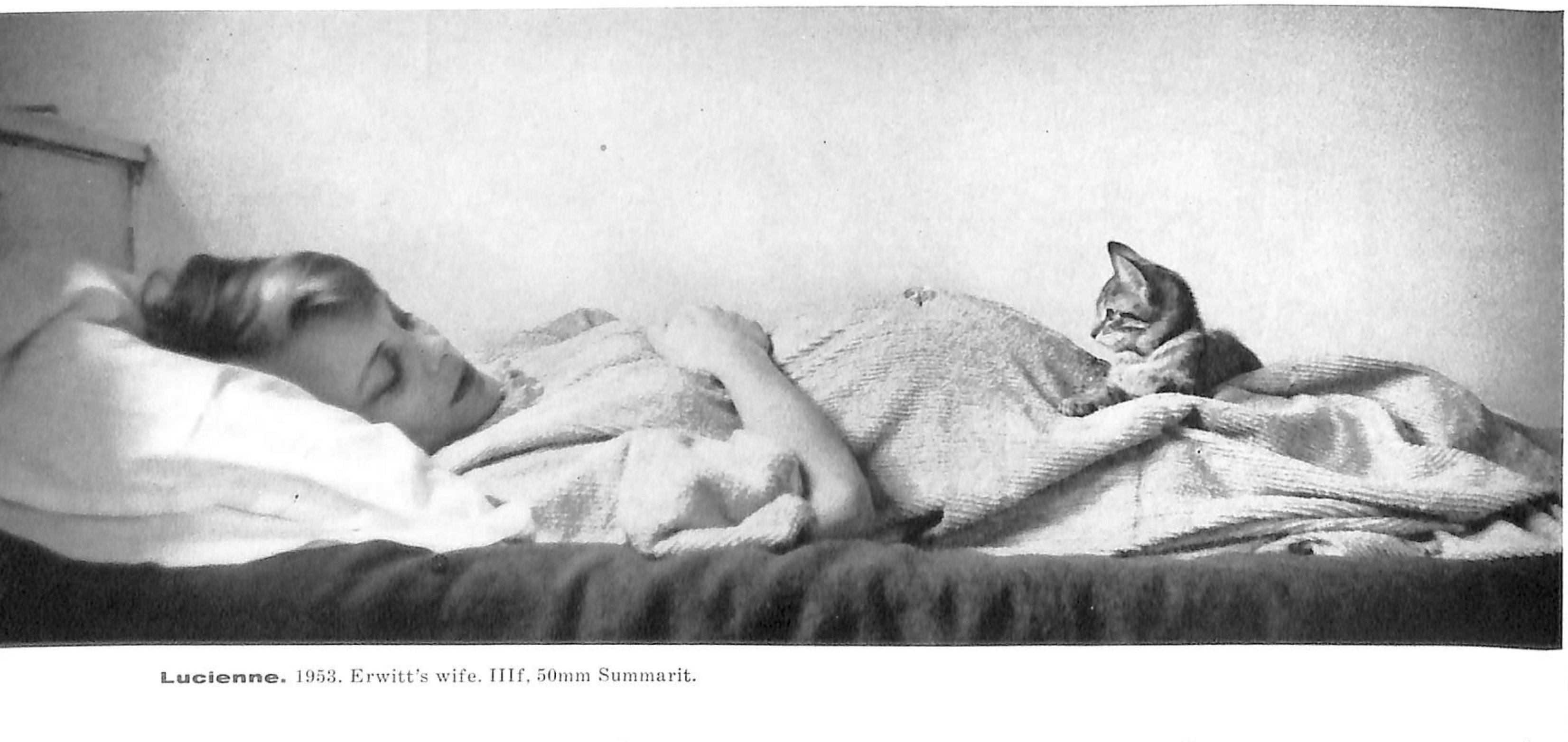
Orleans, France. 1953. IIIf, 50mm Summarit.

Jackie Gleason. For *Holiday* magazine. 1954. Made by the light of a bare bulb. IIIf, 90mm Elmar. ▶



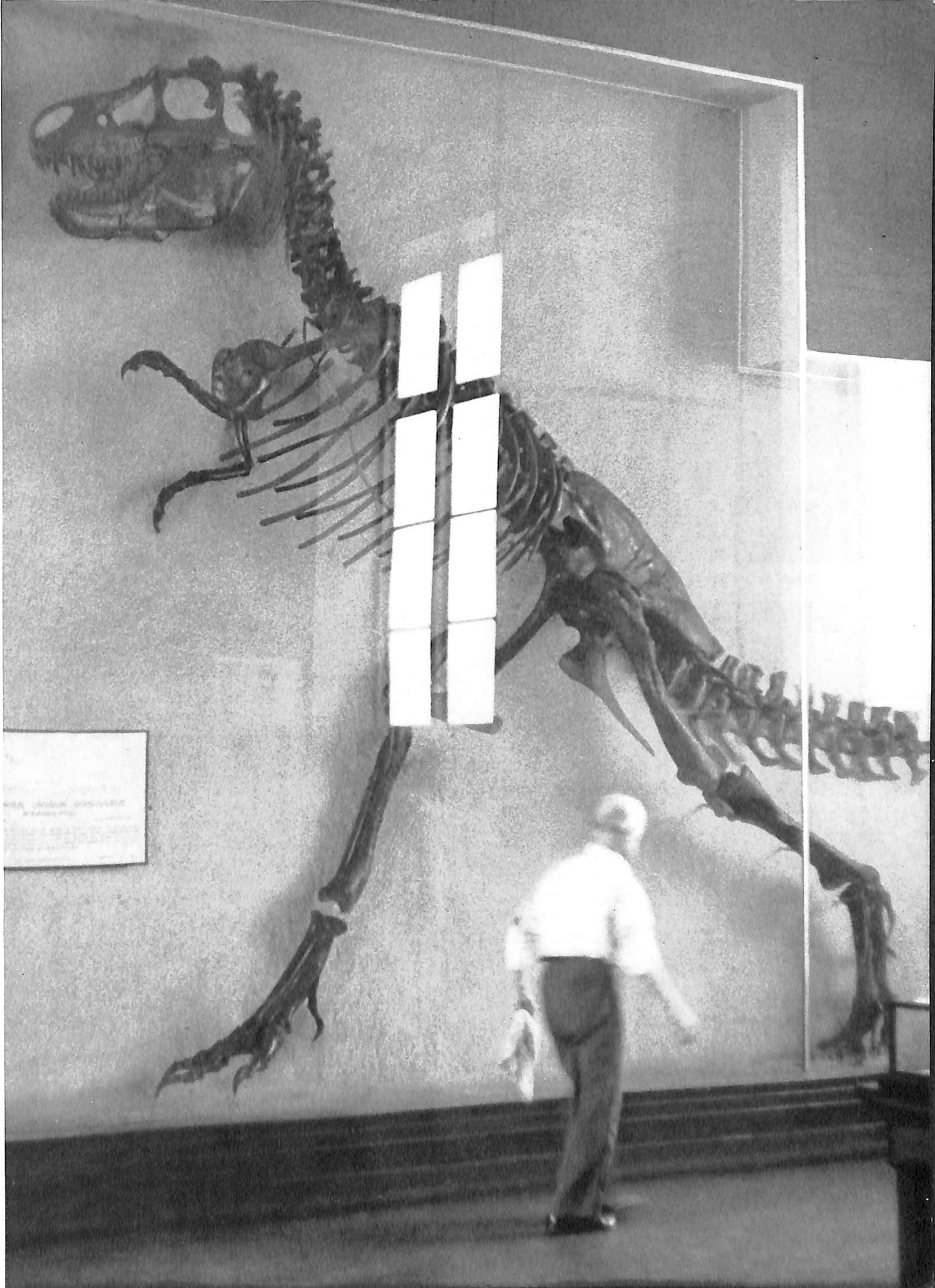
Near Valencia, Spain. 1952. Erwitt stopped his car when he saw these children playing. IIIf, 50mm Summarit.

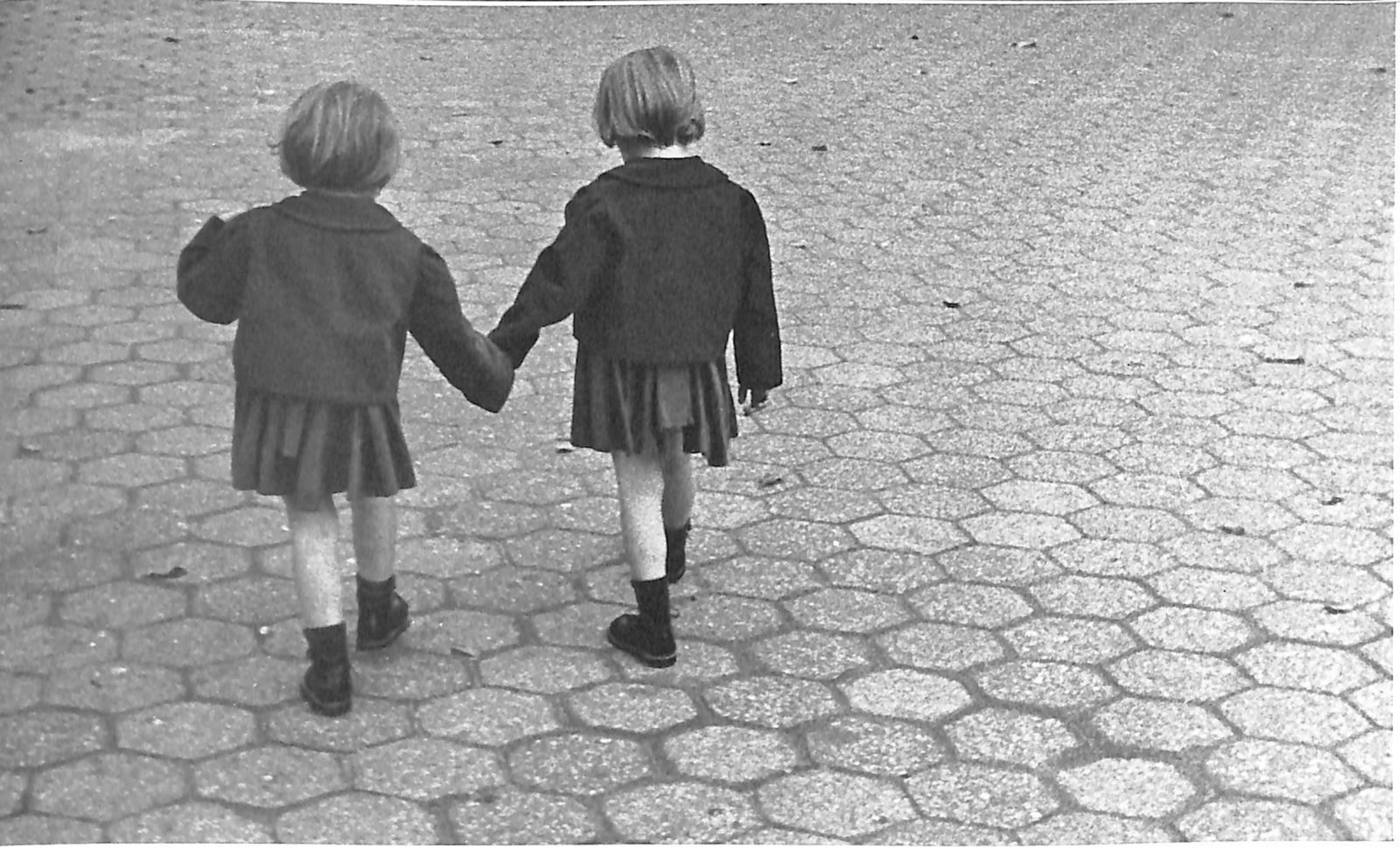
one-man show *(contd.)*



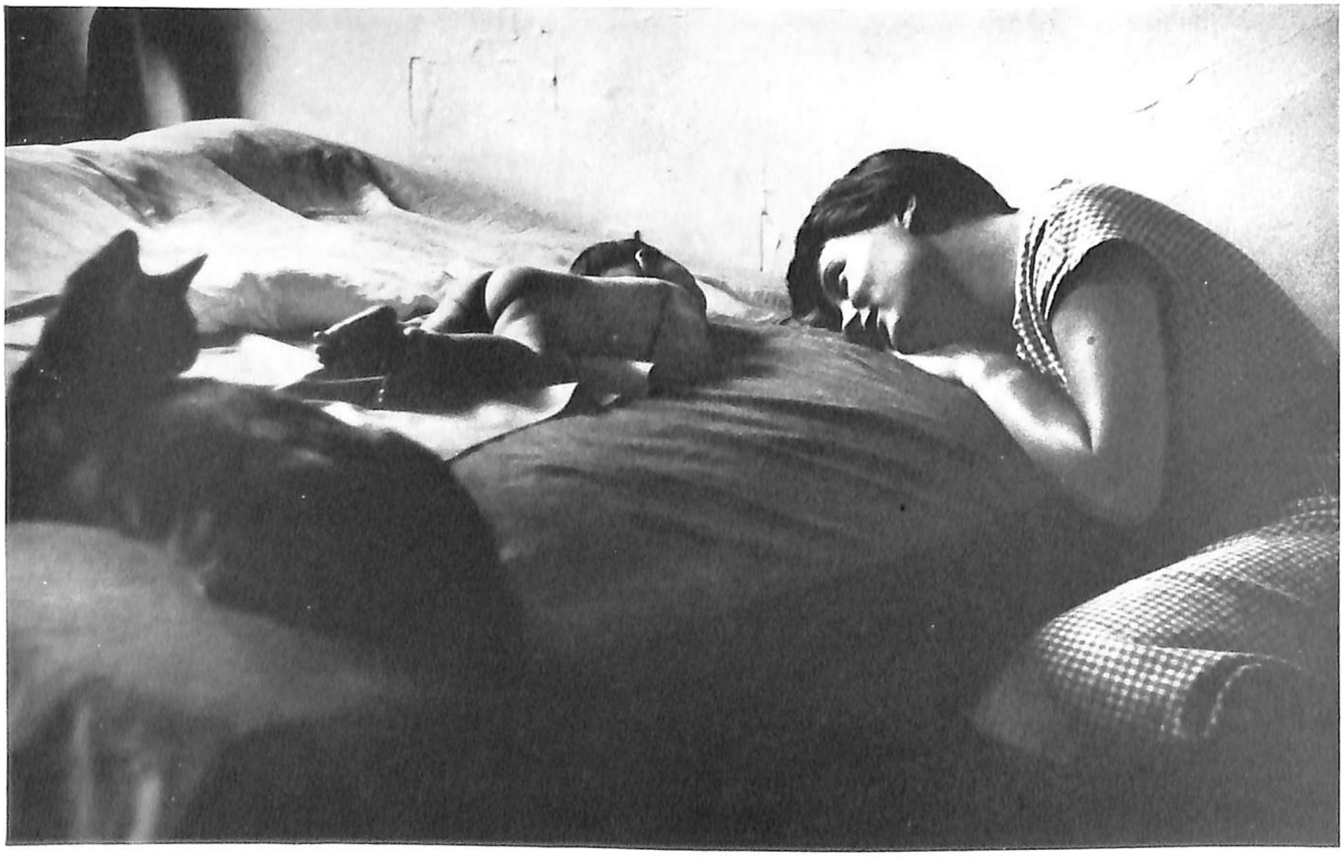
Lucienne. 1953. Erwitt's wife. IIIf, 50mm Summarit.

Two Vertebrates at Museum of Natural History, New York. 1954. IIIf, 50mm Summarit. ▶



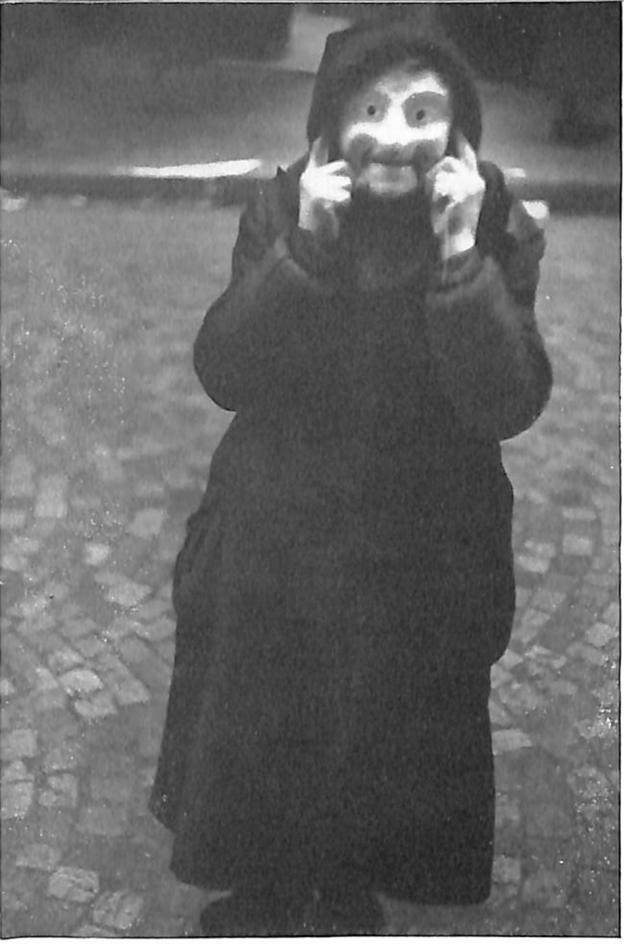


Twins, Central Park, New York. 1954. IIIf, 50mm Summarit.



Ellen Erwitt, just a few weeks old. 1953. Made by the light from a nearby window. IIIf, 50mm Summarit.

Northern Italy. 1952. Gravedigger resting after a long haul uphill. IIIf, 50mm Summarit. ▶



All Saints' Day, Paris. 1952. IIIc, 35mm Summaron.

one-man show *(contd. from page 4)*

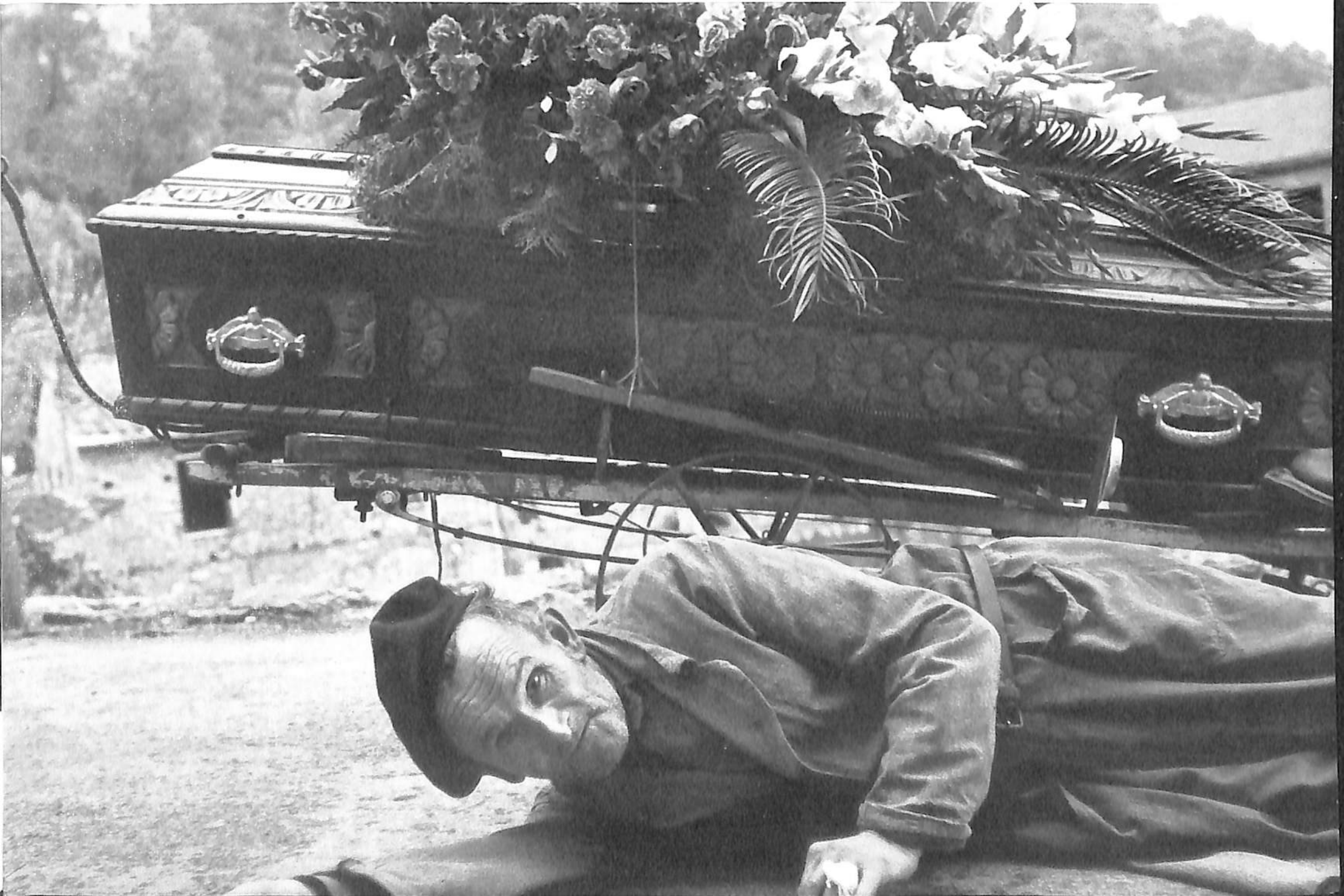
instrument becomes the unfailing slave of a sensitive observer, just about anything about life that strikes that observer can be instinctively preserved by him for a lifetime.

This is what Erwitt does:

Through his work he gives us pictures of himself. For the images that he sees are moments of his own life. And because he is personally motivated to record these images they come to us directly, without the interference of resemblances or superficialities. They are Erwitt photographs. They are more likely to make us ask about the subjects of the photographs than about what we usually ask, "How was that picture made?"

Because Erwitt's work is so full of life, he is very much in demand by picture editors striving to be "different," who are always seeking devices to tug at the reader's emotions, who frequently use "shock appeal" for its impact alone. But because Erwitt's photography is so full of life as *he* sees it, it is not often that the best of his work gets into print.

On these six pages, the reader of *Leica Photography* can view a carefully selected representation of an important photographer's efforts.



report on the new type F films

David B. Eisendrath, Jr.

a color expert tests the latest emulsions

Type F is for *flash.* But if you are an average 35mm camera user who has been unable to keep up with the rapid changes in color film types, Type F may stand for frustration.

But hold on tight, because even professionals are confused. It started when Eastman Kodak Company came out with the new E-2 Ektachrome films. Everyone was delighted that Kodak had finally put on the market a color film that you could process yourself, thus gaining all the benefits of immediate processing, manipulation in processing, and other advantages.

But Kodak also announced that extensive surveys showed that clear flashbulbs were being used for the biggest percentage of 35mm color taken indoors, and furthermore, the problem of filters for use with flashbulbs was confusing the less technically-minded picture-takers. So, to make things easier for flashbulb shooters, the new E-2 color film was balanced for the light of standard flashbulbs rather than for photofloods or other incandescent light sources.

The reaction was mixed. Flashbulb manufacturers were delighted; makers of flash synchronizers and batteries were tickled. And the people who make filters were almost as bewildered as the photographers who were used to using existing incandescent light or photofloods. How were *they* going to make pictures with the new films? Meanwhile, Ansco had come out with a new color film, Anscochrome Daylight, designed for use with daylight, blue flashbulbs, and electronic flash equipment. This film proved excellent, and Ansco followed with a new film for indoor use, designed for use without filters with regular flash.

While questions arose as to why there isn't a film for use with floods or incandescent lamps, those who make pictures for a living had to make exhaustive tests to see just how the new Type F films could be used for *all* indoor or artificial light photography.

Some improvements are still being made in all of these films. But there has been enough experimentation and testing to give you a rundown on the new Type F films and some suggestions for shooting.

color balance

When a color film is designed for use with a particular kind of light source and you want to use it with another kind of light source, you must use correction filters. Just as a coffeepot filter holds back unwanted particles of coffee, so does a photographic filter hold back some of the excess color in that light for which the film was not designed. If you have used Kodachrome Type A with flashbulbs, you know how filters work. With Kodachrome Type F, you shoot with flashbulbs but without a filter, just as you used Kodachrome Type A with photofloods without a filter. But when you want to use *photofloods* with the Type F emulsions, then you must use a filter.

exposure increase

Normally when you use a filter, you find that because it filters out some light, you must give an increased exposure to compensate for that light. In color photography particularly, where exposures are

correction filters and exposure indexes • FOR USE WITH TYPE F FILMS

LIGHTING CONDITIONS	KODACHROME TYPE F	EKTACHROME TYPE F	ANSCOCHROME FLASH TYPE
Daylight (Effective Exposure Index*:)	Kodak 85C, Leitz Type "F" or equivalent 10	Kodak 85C, Leitz Type "F" or equivalent 20	Kodak 85C, Leitz Type "F" or equivalent 25
Photoflood Lamps. (3400° Kelvin), at proper voltage. (Effective Exposure Index*:)	Kodak 82A, Leitz Type "FP" or equivalent 10	Kodak 82A, Leitz Type "FP" or equivalent 16	Kodak 82A, Leitz Type "FP" or equivalent 20
Professional 3200° Kelvin Lamps at proper voltage. (Effective Exposure Index*:)	Kodak 82C or equivalent 8	Kodak 82C or equivalent 10	Kodak 82C or equivalent 18
Flash Lamps (clear), such as Numbers 8, 5, 25, 11, 40, 2, 22, 50, 3, 6, or 26.	None required	None required	None required
Flash Lamps, M-2 type (camera must synchronize with these bulbs)	Kodak 81	Kodak 81	Kodak 81A
Flash Lamps SM and SF	Not recommended	Not recommended	Not recommended

*Suitable for use with meters marked ASA

flash guide numbers*

	KODACHROME TYPE F				E-2 EKTACHROME TYPE F				ANSCOCHROME FLASH TYPE			
BETWEEN-THE-LENS SHUTTERS												
Lamp Number:	M-2†	8	5,25	22,2	M-2†	8	5,25	22,2	M-2††	8	5,25	22,2
Open, 1/25	40	55	95	140	65	85	120	180	69	87	125	185
1/50	§	55	85	130	§	75	110	160	§	87	125	185
1/100	§	50	75	110	§	70	95	140	§	67	95	140
1/200	§	45	60	85	§	60	70	100	§	49	69	100
LEICA SHUTTERS—RED DIAL AND M-3												
Lamp Number:	8	6,26	22,2	31,2A	8	6,26	22,2	31,2A	8‡	6,26	22,2‡	31,2A‡
Open, 1/25	$60^{SD\text{-}10}$	$110^{SD\text{-}16}$	$120^{SD\text{-}16}$	$144^{SD\text{-}16}$	$66^{SD\text{-}10}$	$120^{SD\text{-}16}$	$132^{SD\text{-}16}$	$156^{SD\text{-}16}$	$87^{SD\text{-}10}$	$125^{SD\text{-}16}$		
1/50	$50^{SD\text{-}10}$	$80^{SD\text{-}13}$	$105^{SD\text{-}13}$	$88^{SD\text{-}13}$	$58^{SD\text{-}10}$	$85^{SD\text{-}13}$	$118^{SD\text{-}13}$	$96^{SD\text{-}13}$		$125^{SD\text{-}13}$		
1/100	§	$55^{SD\text{-}4}$	$95^{SD\text{-}4}$	$55^{SD\text{-}4}$	§	$60^{SD\text{-}4}$	$106^{SD\text{-}4}$	$60^{SD\text{-}4}$		$71^{SD\text{-}4}$		
1/200	§	§	§	$35^{SD\text{-}2}$	§	$38^{SD\text{-}2}$	§	$37^{SD\text{-}2}$		$50^{SD\text{-}2}$		
LEICA SHUTTERS—BLACK DIAL												
Lamp Number:	8	6,26	22,2	31,2A	8	6,26	22,2	31,2A	8‡	6,26	22,2‡	31,2A‡
Open, 1/30	$60^{SD\text{-}16}$	$110^{SD\text{-}17}$	$120^{SD\text{-}16}$	$144^{SD\text{-}20}$	$66^{SD\text{-}16}$	$120^{SD\text{-}17}$	$132^{SD\text{-}16}$	$156^{SD\text{-}20}$	$87^{SD\text{-}16}$	$125^{SD\text{-}17}$		
1/60	§	$80^{SD\text{-}8}$	$105^{SD\text{-}8}$	$88^{SD\text{-}10}$	§	$85^{SD\text{-}8}$	$118^{SD\text{-}8}$	$96^{SD\text{-}10}$	§	$125^{SD\text{-}8}$		
1/100	§	$55^{SD\text{-}6.5}$	$98^{SD\text{-}5}$	$55^{SD\text{-}7}$	§	$60^{SD\text{-}6.5}$	$106^{SD\text{-}5}$	$60^{SD\text{-}7}$	§	$71^{SD\text{-}6.5}$		
1/200, 1/250	§	§	§	$35^{SD\text{-}5}$	§	$38^{SD\text{-}4}$	§	$37^{SD\text{-}5}$	§	$45^{SD\text{-}4}$		

*To find a guide number, read down the column beneath the film and lamp you are using to the number opposite the shutter speed you wish to use. (Be sure you are consulting the table which applies to your camera shutter.) This is your guide number. Divide it by the lamp-to-subject distance in feet; the resulting figure is the correct lens aperture.

SD—Synchro Dial setting on the LEICA. In the M-3 synchronization is automatic, but be sure connecting cord is plugged into socket: Q

†—With Kodak No. 81 filter.

††—With Kodak No. 81A filter.

‡—At press time, no specific test data on Anscochrome Flash Type was available. However, the data given is sufficient basis to form a working approach with the first few rolls of film. When more information is obtainable, you may enter it on this chart.

§—May be used, but not recommended.

very critical (and film has less latitude than black-and-white emulsions), good results depend on careful calculation of exposure.

There is another "bugaboo" in color photography—the failure of the law of reciprocity. Don't let the big words scare you. Without getting into a long technical discussion, let me try to explain it simply. There is a basic rule in photography that says that an exposure of 1/100th of a second at f/8, for example, is equivalent to an exposure of 1/50th of a second at f/11, or to 1/25th of a second at f/16. And generally, this rule holds. But with electronic flash, exposures run into thousandths of a second, and time exposures run into many seconds or even minutes. So, practically speaking, exposures vary over a range of about a million to one (1/10,000th of a second to 100 seconds). Now films are designed for specific uses, and when a manufacturer designs a film for use outdoors, he knows that most likely the film will be shot at about 1/25th or 1/50th of a second. He therefore designs his film for use at these particular speeds. Film for flashbulb use is also designed for exposure at about 1/25th of a second, while film for photofloods will generally be exposed at slower speeds and so is designed for these speeds. Expecting a film so designed to perform in the same way when it is exposed at 1/2,000th of a second or at 10 seconds is the same as expecting the family car, designed to operate most efficiently between 25 and 50 miles per hour, to perform as well on the Utah salt flats at 200 miles per hour. It just doesn't work out well. Some day manufacturers may make many films for many specific purposes. But until they do, we must learn to make do with what is available.

type F test results

I have made exhaustive tests with Kodachrome Type F and with E-2 Ektachrome Type F, and have been fortunate enough to get some of the first samples of the new Anscochrome Flash Type film. I have also talked with processors and some of the leading professionals, people such as technicians at *Life* and *Look* magazines. They pretty much support my findings with these new materials. The consensus is that the new Kodachrome Type F is very good with flash, and with proper filters is very good with floods and other incandescent sources. The color fidelity is excellent, and the reciprocity failure is not too bad. The film apparently does not vary emulsion to emulsion; the processing (so far only by Kodak) is consistent.

The new E-2 Ektachrome Type F, however, has been giving some trouble. With flashbulbs, for which it is designed, the results have been very good when flash has been the only source of light and exposures have been "open flash" or at shutter speeds up to 1/100th of a second. At faster speeds there seems to be some reciprocity failure, and the film not only is less sensitive but there is also a slight shift in color, because certain color-sensitive layers in the emulsion do not respond as they do at slower speeds. In other words, you have not only a variation in speed but also a variation in color. This may require filtering.

When the new E-2 Ektachrome Type F is used with recommended filters for use with floods or with professional lighting equipment of 3200° Kelvin, there seems to be a great variety of results, apparently depending very much on exposure time, the particular emulsion used, and, of course, the filters used. When exposures are not right on the button, the pictures tend to appear yellowish or bluish.

The new Anscochrome Flash Type has been used only for a few weeks in tests, at the time this article is written. Not enough is really known about it to establish any positive comments, but it seems to be quite good. In grain and resolution it is better than E-2 Ektachrome but not as good as Kodachrome

general characteristics • NOTES AND COMMENTS BY THE AUTHOR

	KODACHROME TYPE F	E-2 EKTACHROME TYPE F	ANSCOCHROME FLASH TYPE
EXPOSURE CHARACTERISTICS WITH PHOTOFLASH Quality excellent with all films at open flash, 1/25, and 1/50 second—	—good also at higher shutter speeds; little reciprocity failure up to 1/500 sec.; color good at all exposures.	—lost almost ½ stop in effective speed at 1/100 sec.; lost 1½ stops at 1/500 sec. and color became bluish.	—good also at 1/100 and 1/200 sec.; lost about ½ stop in effective speed at 1/500 sec. and color became slightly magenta but not objectionably so.
EXPOSURE CHARACTERISTICS WITH PHOTOFLOODS (at proper voltage with recommended filter)	Good results with exposures from ½ to 10 sec. Lost about 1 stop at 10 to 60 sec.; color excellent.	Fair results at ½ to 4 sec. Lost about 1 stop at 5 to 10 sec. Lost about 2 stops at 10 to 60 sec. and color shifted quite badly, required heavy CC filters.	Good results at ½ to 10 sec. Lost about ¾ stop at 10 to 60 sec. and color needed slight CC filter correction.
EXPOSURE CHARACTERISTICS WITH 3200° KELVIN PROFESSIONAL LAMPS (at proper voltage with recommended filter)	Same results as with photofloods, although slow speed meant longer exposures.	Moderately fair results; above 5 sec. reciprocity failure caused color shifts, so correct exposure and proper filter hard to determine.	Same results as with photofloods; because of higher speed, less reciprocity failure. Cyan layer seems to shift most, then magenta; at 60 sec. needed 1 stop more and CC 10R filter.
EXPOSURE CHARACTERISTICS WITH DAYLIGHT (with recommended filter)	Good results, although a little warmer than Daylight Kodachrome. Quite pleasing.	Good results at exposures to 1/100 sec. On some subjects more pleasing than Daylight E-2 Ektachrome. At high shutter speeds, lost 1 stop or more.	Good results at exposures to 1/200 sec. Warmer than Daylight Anscochrome but quite acceptable. At higher shutter speeds lost about ½ stop.
GRAININESS	Extremely fine. Still the standard by which other films will be judged.	Seems finer than E-1 Ektachrome. Not as good as Kodachrome. May be objectionable in stereo.	Seems somewhat finer than E-2 Ektachrome. Not as good as Kodachrome.
RESOLUTION AND SHARPNESS This is hard to define, but general impression of details shows:	Remarkably good definition; will be hard to beat in this respect.	Generally quite good. Better than E-1 Ektachrome, but not as good as Kodachrome.	Seems slightly better than E-1 Ektachrome but not as good as Kodachrome; much better than the older Anscocolor.
PROCESSING AND MANIPULATION OF SPEED	Processed by Kodak and, soon, by Kodak Licensees. No variation known and Kodak processing very consistent.	Processed by yourself or photofinisher. Can be pushed 1 stop fairly well; some emulsions will push 2 stops when proper filters (determined by test on each batch of emulsion) are used.	Processed by yourself or photofinisher. Can be pushed 1 stop very well; will push 2 stops with mild filtering, increasing the speed will mean some loss of resolution and color, but quite acceptable.
COLOR FIDELITY AND GENERAL APPEARANCE There is no such thing as true color: it's a question of personal preference, which varies with subject and ultimate purpose.	Colors intense, bright, some contrast.	Colors are a little softer, pleasing. I like this red, when it is good. Seems a little warm but pleasantly so.	Colors are softer than either of other films. I like the greens and some blues very much.
STORAGE CHARACTERISTICS These depend very much on storage conditions. If film is kept cool and dry it will keep well for a month or so.	Seems to be excellent; Kodachrome has always kept well.	*There have been some complaints that both indoor and outdoor Ektachrome fade and shift colors when not under recommended storage conditions.	*This film has not been out long enough to test conclusively. Daylight Anscochrome keeps very well with little loss of color.

***This film can be protected against latent image failure if partially developed immediately after exposure. Instructions come with processing kits.**

Type F. It is a little "softer" than either of the Kodak films. However, it seems to have more latitude and shadow detail. With flashbulbs the color also is good.

A comparison of the Anscochrome Flash Type with the E-2 Ektachrome Type F showed they were both good, both acceptable. The Anscochrome was softer, with excellent gradation of color; the colors were slightly magenta, but not objectionably so. Particularly good was the fact that in exposures made with filters and photofloods and 3200° Kelvin lamps, there was less reciprocity failure or color shift than with the E-2 Ektachrome. The Ansco film also compared favorably with the Kodachrome Type F, although the latter had more contrast and more intense color.

which is the best?

As to which is best, I won't stick my neck out. All three of the films have faults of one sort or another, but these may very well be corrected by the manufacturer or be compensated for. People who are accustomed to Kodachrome will like the new Kodachrome Type F, although the slower speed it has when used with filters and artificial light is definitely a handicap. I like the Kodachrome Type F, but I prefer the new Anscochrome Flash Type to the E-2 Ektachrome Type F: the Ansco is more consistent and has more latitude, better grain and definition, and less color shift or slowing due to reciprocity failure. But both of these films will be improved during the next few months, and a re-evaluation will then be in order.

The best way to look at these films and all of the factors concerning them is to "chart" them, allowing a more graphic comparison. In the chart above are my own findings and some comments from other experienced persons in the field.

[At press time we learn that Type A Kodachrome in 35mm will return to the market as "Kodachrome Professional Film," in 36-exposure loads only.—Ed.]

picturing your house

A. E. Woolley • Baton Rouge, La.

a simple approach to an old-fashioned photographic problem

Who says your home isn't a beauty? With proper planning, you can picture it in a way that will give it that "House Beautiful" look.

But there are many factors to consider before trying to picture your home. Before you pick up the camera, you have to understand certain elements of nature in order to get the best pictures of the structure and you must understand the structure, too.

study light and structure

First, what is the relationship of the sun to the house for best rendering light and shadow? In our illustrations, the house faces east and the light was best at 6:50 A.M., when the low sun cast long, interesting shadows. A greater feeling of depth was achieved with the aid of this strong light-and-shadow ratio.

If you can reach the architect who designed your house, a conference with him will help you understand its main features and why he included them. These points should be the subjects of many of your pictures. If you cannot confer with the architect, you can evaluate the building yourself on the basis of what it means to you.

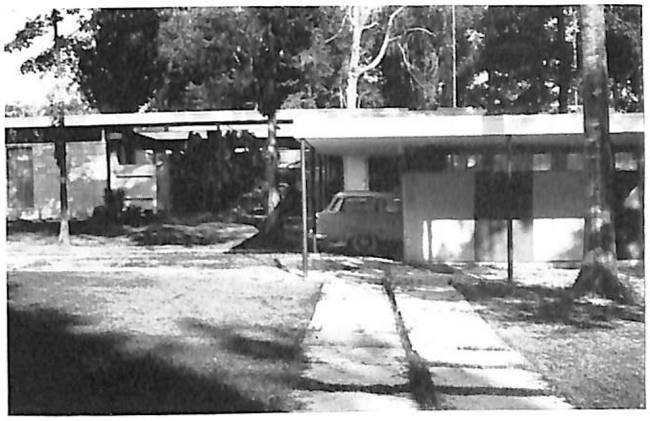
Naturally, you will want as beautiful an exterior as you can secure. Having determined the most favorable lighting conditions, the next step is to find a viewpoint that shows the lines of your house to good advantage. Walk around the house and inspect various compositions through the viewfinder. As you look for angles, be alert for framing devices that may add a three-dimensional feeling to the composition. Trees, tables, chairs, cars, and similar objects can be effective for this purpose. By using such a device in the foreground, you add another plane to the picture and, consequently, another dimension.

If you're not lucky enough to have old trees to frame your home, filters can help accentuate depth by darkening the sky. Usually a light yellow or medium orange filter will give tone to the sky and emphasize any clouds that are present. You can use a light green filter to lighten the dark tones of shrubs and trees if you want to lessen the contrast introduced by these elements. Filters should be used purposely, however, not just for their own effects.

Another way of lending depth to your composition is to shoot up close, using a wide-angle lens to exaggerate the perspective slightly.

preserving character

While we are outside, let's just mention how *not* to photograph your home. *For instance, never stand in the center of the lot and shoot straight on:*



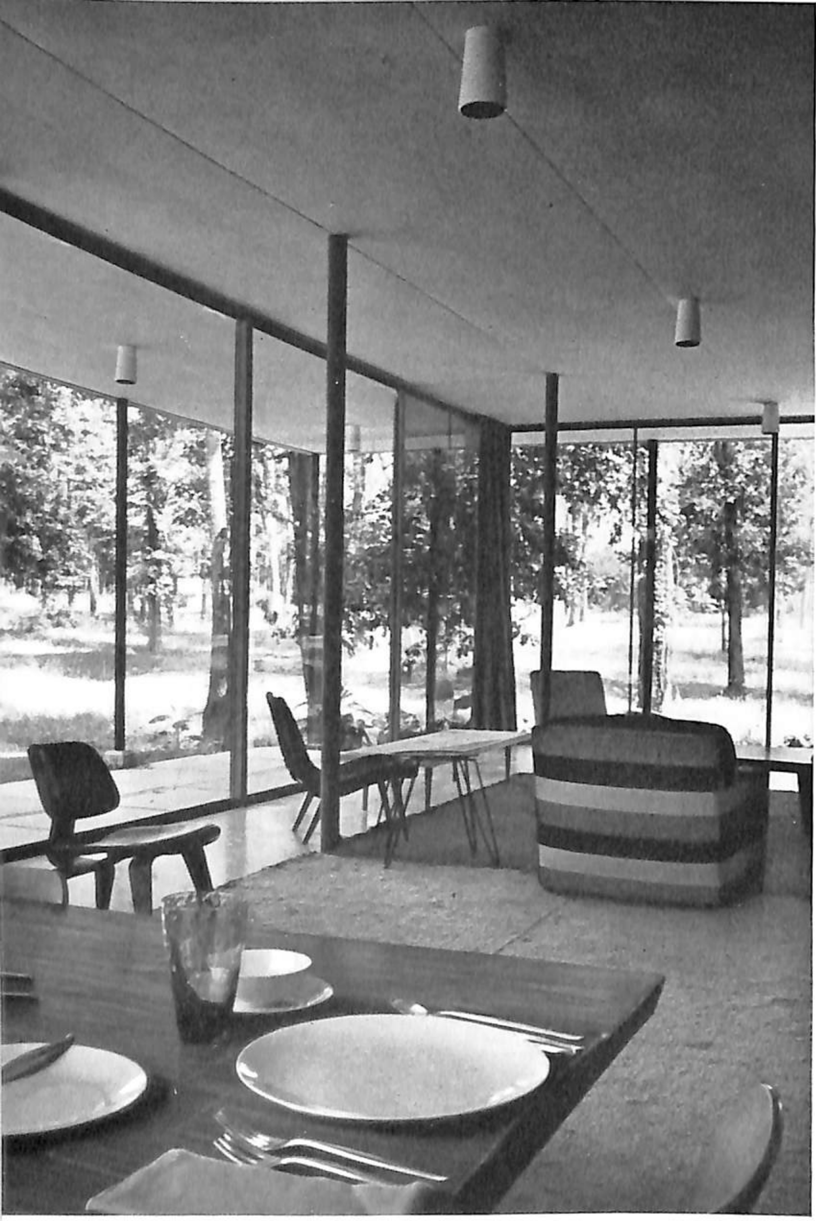
You will be ignoring the three-dimensional quality of the house. Never shoot at high noon, for there will be little light-and-shadow variation except directly beneath the object that the sun is hitting. And don't shoot without checking the scene in the viewfinder for undesirable distortions and converging lines.

An interesting addition to pictures of the exterior of your house might be close-ups that show texture. The full quality of the texture will depend on light-and-shadow play on the material. You might have to wait for hours until the sun reaches the best angle for rendering these details, but the result will be worth the wait.

Leave the problem of exposure to your meter. When reading the scene for an exposure, read both a highlight area and a shadow area, and set the meter midway between them. Or, if you are shooting for a specific detail, you can expose for the more important of the two. Since accurate exposure is important, always depend on your meter. In heavy shade and sometimes indoors I have found the supersensitive cell for my Leica Meter very useful.

interiors and natural light

Once you've covered all the important angles under the most favorable lighting conditions outdoors, you're ready to tackle the interior. In picturing



FOREGROUND INTEREST created by table place-setting adds much to composition. Wide-angle (35mm) lens gave tremendous depth of field, is a "must" for photographs of interiors.

interiors you can use some of the same devices you used outside. Personally I like natural light photography and use no lighting other than daylight for photographing a building. I feel that architects design structures for maximum light, so I take advantage of it. Since my light source in all of these photographs was the existing light, you can see the true light values in this particular house. The architects designed it that way. I photographed it that way. However, if you prefer, you can use flash fill-in to balance the light indoors with the outdoor illumination seen through the windows. This is particularly useful in color work, where the tolerance of lighting contrasts is smaller than in black-and-white.

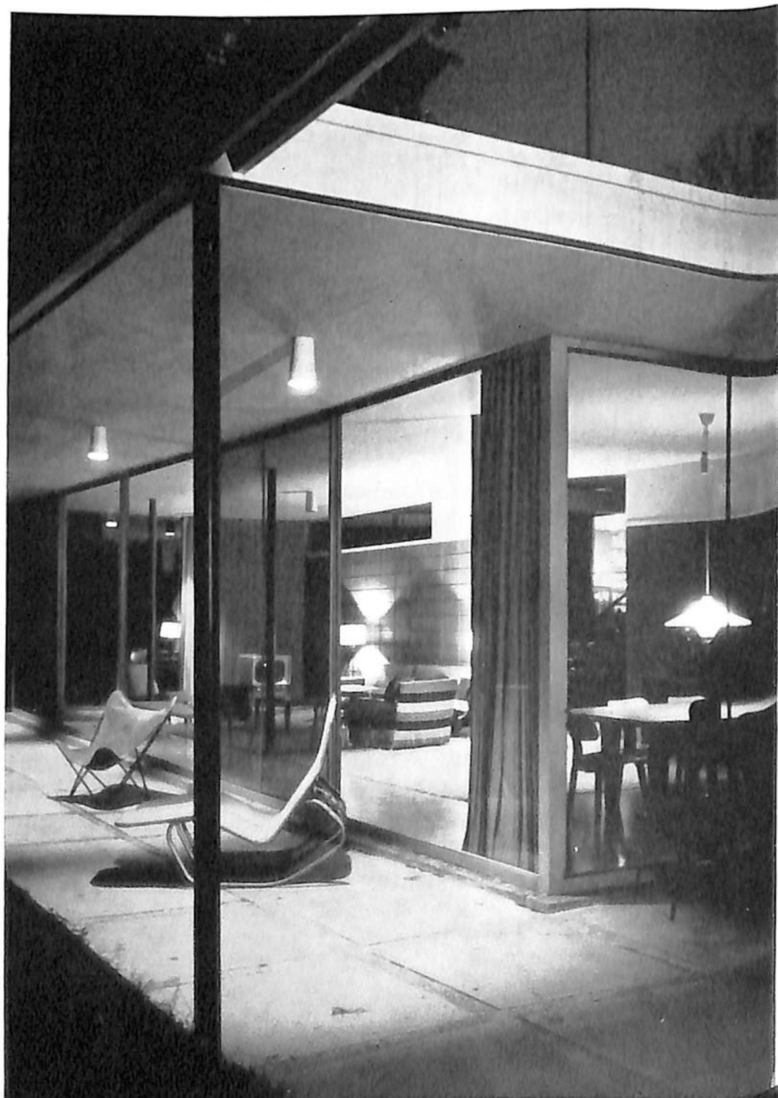
Inside the house you will be restricted as to the number and kinds of framing devices that you can use. But a little thought will produce some effective ones. In the case of the over-all shot of the living room (above), a place-setting was assembled on the table in the foreground. This served as the near plane of the composition and made the room appear as deep as it actually is.

wide-angle lens a "must"

A wide-angle lens is a necessity for shooting interiors. Many shots can be made with a normal 50mm lens, but you get better depth and coverage with wide-angle. The added depth of field alone is ample reason to use it. Architectural photographers who work with large cameras use a wide-angle lens as practically standard equipment. (Before I began photojournalism, I was an industrial and architectural photographer and used the traditional 4x5 and 8x10 standard equipment. But in the last six years I have occasionally done the same work with my 35mm and the results have been comparable, if not better.)

Speaking of equipment, let's discuss a few accessories that can help make your pictures better. For instance, not *every* shot of your house will look best

NIGHT BRINGS DRAMA and a rich play of light and shadow. When sky will show in night shots, best time to shoot is at dusk. Turn on all lights inside. Wide-angle lens, of greater depth at wide apertures, helped dim-light exposure problem here.



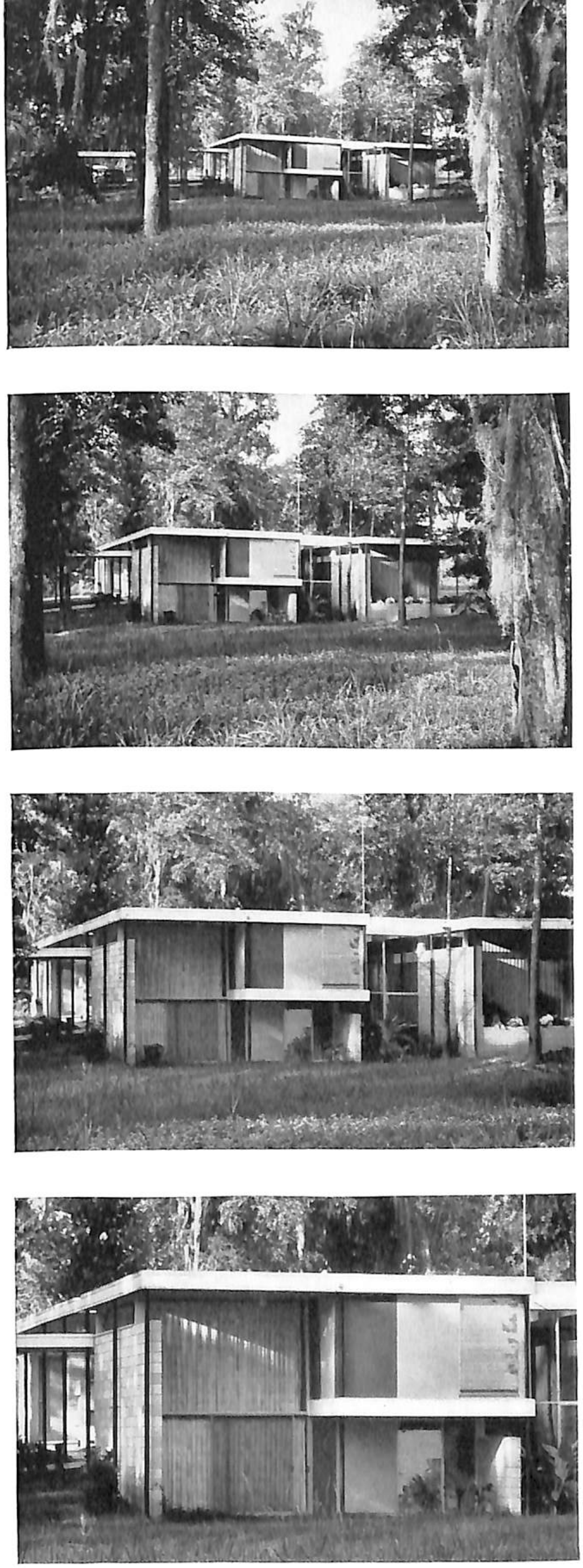
if taken with a 35mm wide-angle lens, useful as it is. Sometimes a 50mm, 90mm, or 135mm will give a better shot from a certain position. A set of pictures (right) from the same position shows the different perspectives produced with various lenses.

Also, you should use your tripod to get the sharpness demanded in architectural shots, especially on interiors, where exposure times run into many seconds. Unless you are using the M-3 camera, you will want an Imarect finder to get exact composition with various lenses. It's useful off the camera, too, for composing shots while you are surveying picture possibilities. Filters, a lens hood, and cable releases are helpful. Choice of film is very important also. I use Plus X for my photojournalism work. Processed in D-25 formula, this film renders fine grain and good quality. Lately I have been experimenting with Adox and find it excellent for architectural shots. Most of the accompanying pictures were made on Adox KB-14 processed in D-23—I like the grain-free sharpness this film gives, important for building textures.

don't forget night shots

After you have covered the house in daylight, look at the building at night. Many of my most interesting building pictures have been made at night—or rather, in twilight, when there is still a slight glow in the sky—with all the interior lights burning. One of the shots here (left) was done at night. The depth of a wide-angle lens enabled me to shoot at f/4.5 at 2 seconds. By not having to stop-down, the exposure was shortened, yet the depth of field of the lens at f/4.5 was sufficient to produce over-all sharpness. For these "night" shots, try bracketing your exposures of each scene. Shoot once at what the meter says, then once at 2 stops smaller, and again at 2 stops larger. This will assure you of a good negative.

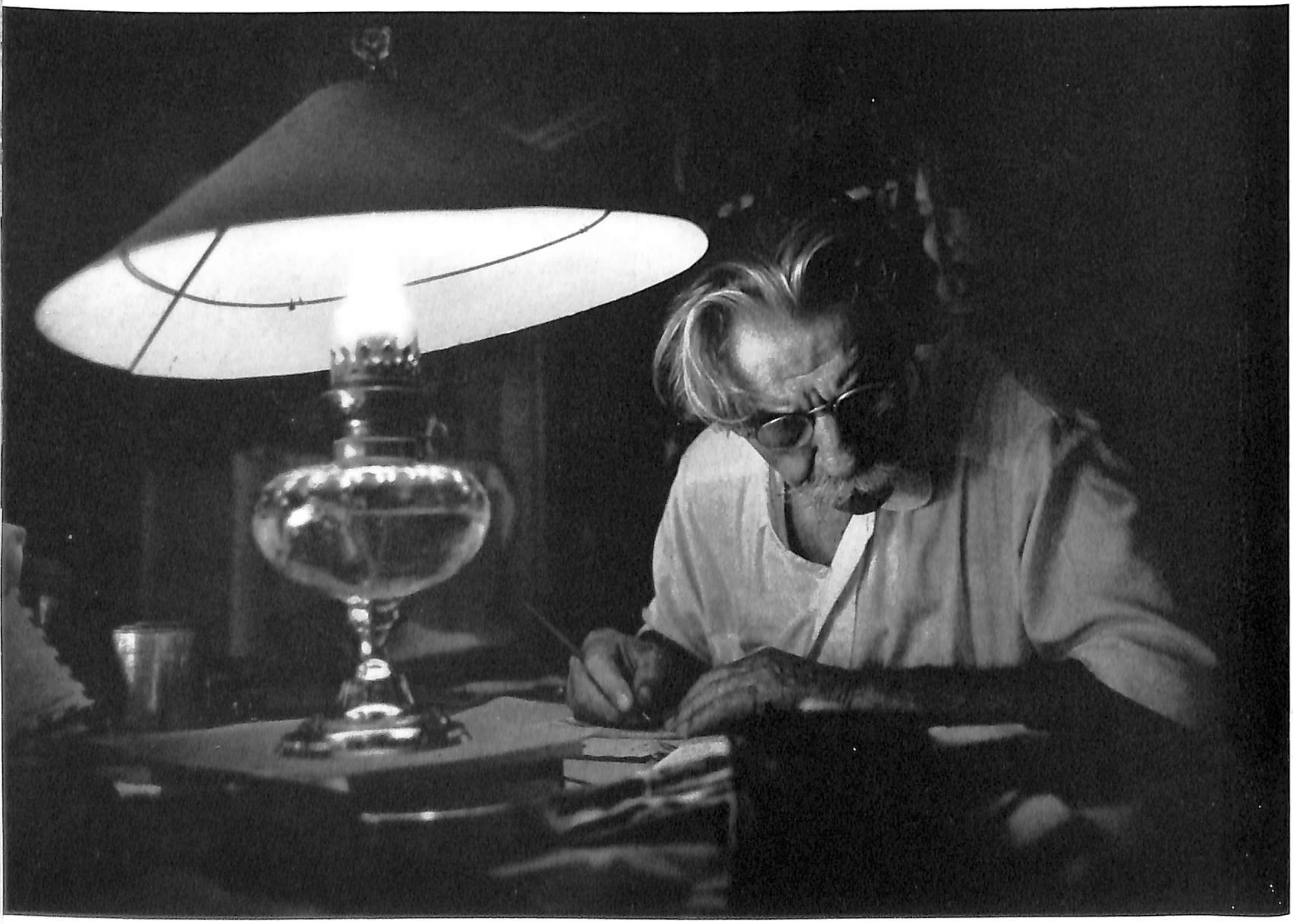
The nighttime shot completes the full photo-coverage of your house and will provide you with a nice variation in the picture story of your home. When you look over the final set of prints, I think you'll be pleasantly surprised. You'll find that the same house that you took for granted, the same one that keeps pestering you for paint and a new screen door, is a beauty after all. The project of photographing your home will have sharpened your appreciation of it. Although the house which was used for the illustrations in this article is of a contemporary architectural style, the basic approach outlined in the text may, of course, be applied to the picturing of any structure, no matter what its design. Every house has an individual character. The best camera record of *your* house will have captured much of what makes it stand apart from any other.



SAME ANGLE, VARIOUS LENSES, produce different pictures. Here, a 35mm lens (top) shows over-all setting; 50mm lens (second) makes trees a foreground frame, gives fair-sized image of house. The 90mm and 135mm lenses (bottom) single out details. *Architects of the house illustrating this article: Short and Murrel; contractor and owner: Wright W. Adams, Jr.*

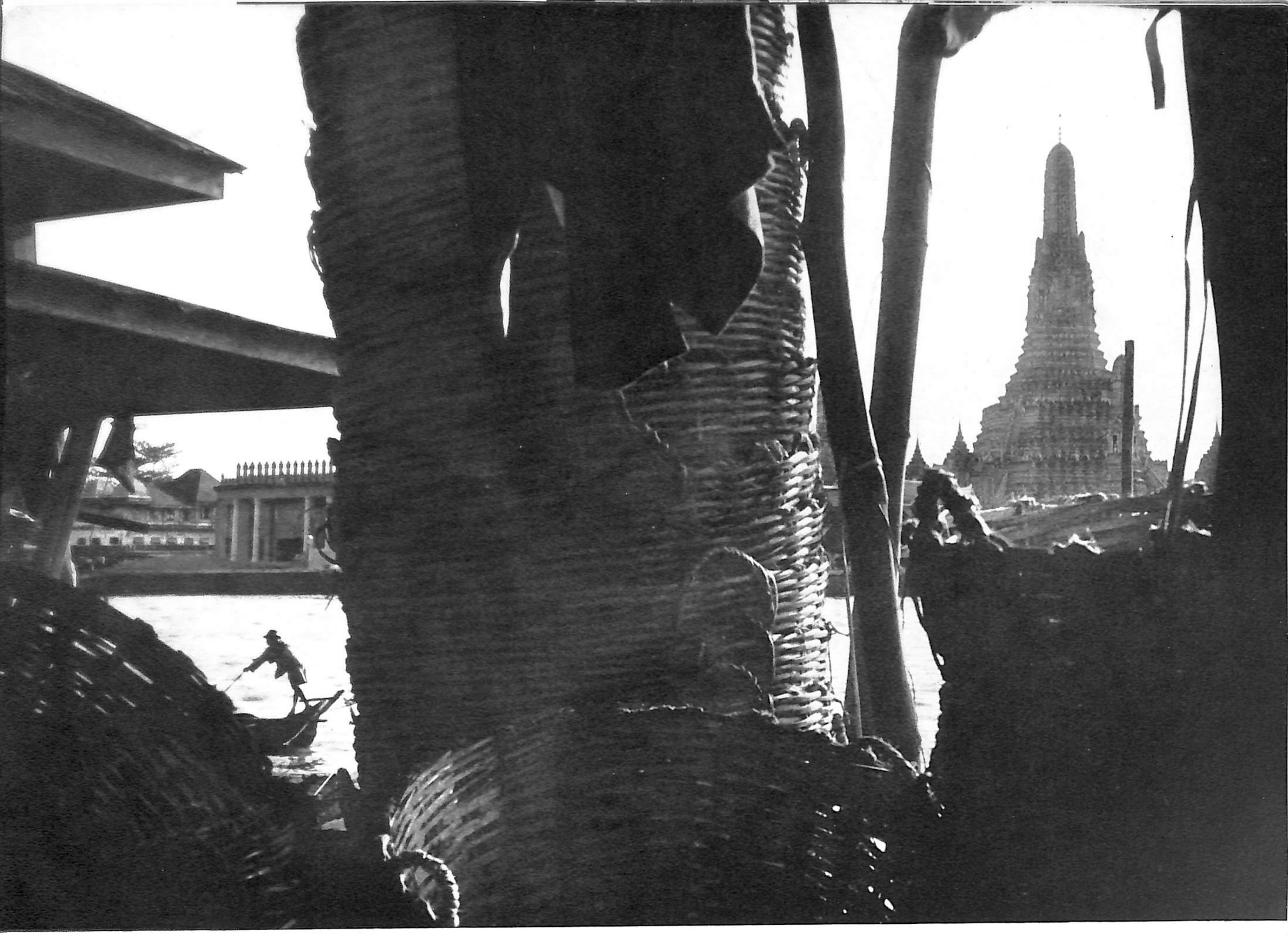
Leica portfolio

Presenting four examples of the many outstanding contributions made to photography by Leica owners in all parts of the world.

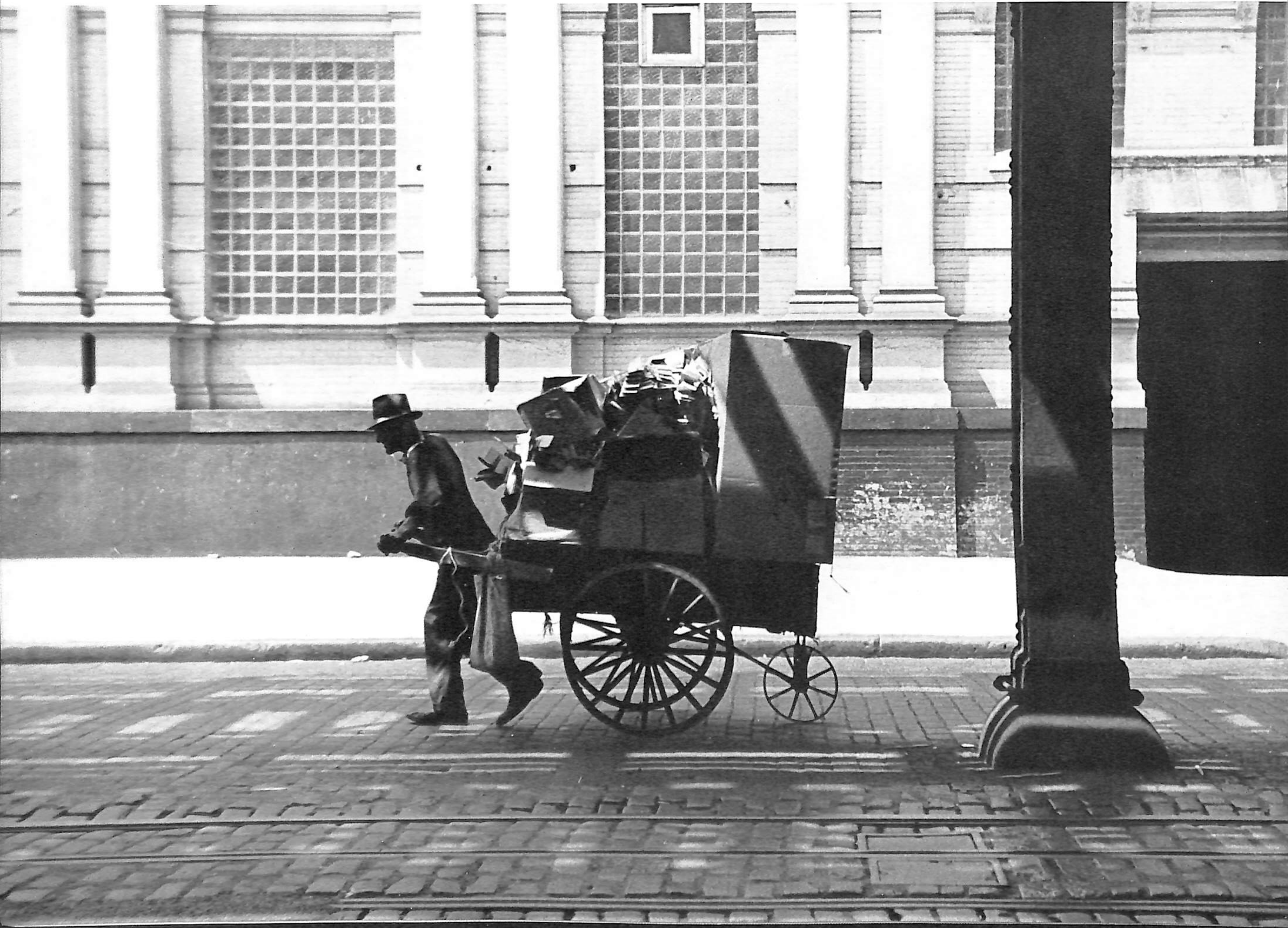


W. Eugene Smith. Dr. Albert Schweitzer at Lambaréné. IIIf, 35mm Elmar. (Courtesy *Life*, © 1954 Time, Inc.)

Robert Frank. Café in Spain. IIIf, 50mm Summitar. ▶



Ernst Haas. Bangkok, the Venice of the East. M-3, 35mm Summaron.



Louis Stettner. Under the old "el", New York. IIIf, 50mm Summitar.

Benser's "35mm Magic" charms U. S.

second lecture tour under way

BETWEEN LECTURES Benser snatches a rare chance to relax. In Europe, every talk is a sell-out.

When we announced Walter Benser's first lecture tour last year, we weren't sure whether he would draw the large crowds in this country that he does in Europe. Radio, television, theater, movies, concerts, and many other activities here compete seriously with purely photographic lectures. And the comparatively enormous distances between various cities were an unknown factor in attendance.

But the extraordinary reception that Benser got nearly everywhere for his 45 lectures proved that nothing dampens a 35mm fan's enthusiasm for his hobby! In many cities – Boston, Chicago, and Los Angeles, for instance – Benser had to give extra lectures to avoid disappointing overflow crowds. Some Leica fans came 100 and 200 miles by car to hear the program. In one case, a group from Seattle flew the 600 miles to San Francisco to hear the lecture! Who said the pioneering spirit is dead?

What is the special lure of a Benser lecture? For one thing, Benser draws on a great number of years of photographic experience. For another, his comment on his pictures is clear, simple, and above all, amusing. He discusses problems that interest all amateurs, and does it in a way that even beginners understand. By using two screens, he makes important comparisons of techniques easy to grasp.

Judging from the enthusiastic turnout at Walter Benser's first lecture series, we think you will welcome the news of his second tour, already in progress. New pictures and new problems will be featured. If you attended the first lecture, you already know how much Benser can teach you. If you didn't, be sure not to miss the second. You'll be amazed at how pleasant "school" can be!

Speaking of which – enthusiasm for the tour was by no means limited to audiences. Benser himself enjoyed every hectic minute of it. On his way home for Christmas, he wrote us his reaction to America and Americans, which appears on the next page.

(Opposite also is a list of the cities where Walter Benser will lecture this spring, with the dates of his appearances. See your Franchised Leica Dealer *now* for a free ticket. If you wait, they may all be gone, and you will be disappointed.)

"AUF WIEDERSEHEN to America..."

"One of the many things I learned during my first visit in the U.S.A. was this: don't draw any conclusions. You can't really get to know a country like the U.S. in three months' time, and you certainly can't come to any conclusions about it. But one statement I do want to make: European and American photo fans have nearly the same photographic aims.

"But then the differences start. In Europe, color photography is still in an experimental stage. Amateurs are still yearning for it, but their wants cannot yet be met. Even wealthy fans are conscious of the barrier of the high costs involved in color photography abroad. America's considerably higher standard of living enables many amateurs here to take color pictures and to gain experience fast.

"The extraordinary interest of American photo fans in their hobby made me very happy. In the first place, I was delighted at the extensive knowledge of technical problems that I found among Leica owners. Very often we had discussions far into the night and talked over various problems. These discussions were very valuable to me, since my second Leica lecture tour, from February to May 1956, will be illustrated with completely new pictures. When I was choosing these pictures, my experiences with American amateurs helped a lot.

FLAWLESS PRESENTATION, a Benser trademark, requires personal attention to every detail of his lectures.

INFORMAL DISCUSSIONS often spring up after a lecture. Benser always likes to "talk pictures" with camera fans.

"And this exchange of ideas also enabled me to revise thoroughly my book 'Applied Color Photography,' and to cover color photography problems existing in the U.S. I decided, therefore, not to issue the book in the U.S. in 1955. Instead, it will appear in 1956 as '35mm Color Magic,' with more than 40 Leica color photographs and it will include new pictures taken in the U.S. [*Available from Franchised Leica Dealers after May 1. $6.90—Ed.*]

"During the fall of 1955 I witnessed a very exciting event. Together with me, about 100,000 amateurs in color photography had their first experience with the new, fast color films of the Anscochrome and Ektachrome type. This big increase in the sensitivity of 35mm color films has not yet come to an end. Research work is already being done on films with exposure indexes of 45, 64, 120, and even 200, which show very little loss of quality in color. A new world is opening up, in which color film will be as fast as black-and-white.

"I hope to tell you something about this and about the vast possibilities of the Leica system during my second American lecture tour. I am already anticipating each lecture in your huge and friendly country. *Auf Wiedersehen* to America!"

—Walter Benser

Benser's Spring 1956 Itinerary

(Omitted are 26 lectures which occurred before publication.)

Apr. 16	Minneapolis, Minn.
Apr. 17	St. Paul, Minn.
Apr. 18	Milwaukee, Wis.
Apr. 19	Peoria, Ill.
Apr. 20	Springfield, Ill.
Apr. 23	Chicago, Ill.
Apr. 24	South Bend, Ind.
Apr. 25	Detroit, Mich.
Apr. 26	Flint, Mich.
Apr. 27	Grand Rapids, Mich.
Apr. 29	Indianapolis, Ind.
May 1	Louisville, Ky.
May 2	Evansville, Ind.
May 3	Cincinnati, Ohio
May 4	Huntington, W. Va.
May 7	Columbus, Ohio
May 8	Toledo, Ohio
May 9	Akron, Ohio
May 10	Erie, Pa.
May 11	Buffalo, N. Y.
May 14	Rochester, N. Y.
May 15	Johnson City, N. Y.
May 17	Boston, Mass.
May 18	Springfield, Mass.
May 21	New York, N. Y.
May 22	Brooklyn, N. Y.
May 23	Reading, Pa.
May 24	Harrisburg, Pa.
May 25	Washington, D. C.
May 28	Baltimore, Md.
May 29	Hackensack, N. J.
May 31	Philadelphia, Pa.

camera aloft

E. M. Van Storm • Seattle, Wash.

business trips can pay off in pictures, too

Here's my situation—maybe it's yours as well. I'm a businessman, an engineer, and my work makes it necessary for me to fly around the country a lot on commercial airplanes. Of course my family can't go along, but I do always have with me a constant traveling companion, my camera. Since after I reach my destination my work is cut out for me, and this excludes picture-taking, I make my photographs from the airplane's window.

The basic policy that governs my picture-taking is this: I press the shutter release if there's a subject I would point out to my family if they were along. Such a subject might be an unusually good example of contour plowing, a tug pulling a barge, a large bridge spanning a river, or a famous landmark. Here are some suggestions you may be able to use on your next trip by air:

pick your seat

When you board your plane, try to get next to a window in either the first or second seat toward the nose or the last or next-to-last toward the tail. This will put you fore or aft of the wing for the best possible view of the ground. Most windows are a little on the smudgy side, but this can't be helped.

Another thing about seat location: I always try to figure out beforehand which side will be in the shade, and if possible sit there. This is important, for if direct sunshine strikes your window it will make the scratches and dirt on the window much more apparent and so be more difficult to see through.

By all means keep your camera ready for instant use. At air speeds of 200 or more miles per hour, interesting subjects are yours for only a brief glimpse. Because I was ready one late afternoon when we took off from Washington, D. C., just as fast as I could wind the shutter I was able to shoot individual "portraits" of the Jefferson Memorial, the Washington Monument, the Lincoln Memorial, and the Capitol building itself.

useful equipment

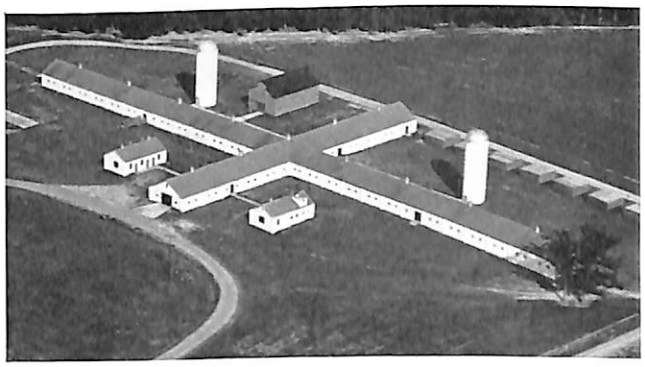
I almost always use the 90mm Elmar as standard lens for pictures from the air. The 50mm lens makes even large ground objects look too far away. It is useful, however, when you want to include a wing tip or the outboard engine to frame a general ground view or a sunset, for example, and still keep all parts of the subject within the available depth of field. But, in general, the larger lenses are more efficient.

Beware the temptation of resting the lens against the constantly vibrating windowpane. This, of course, would spoil picture sharpness. Watch out, also, when using the long Hektor that you don't accidentally let the lens include a part of the window edge, even though the image in the Imarect finder tells you that all is clear. But don't put that Hektor away—it's wonderful for bringing out those distant thunderheads that pilots so carefully avoid.

From about 9:00 A.M. to 4:30 P.M., I use a Skylight Filter for all my Kodachrome pictures. This is the only filter I use or feel I need. This filter (which,

SEMI-ABSTRACTIONS are common in aerial photos because distance emphasizes the geometric design of a subject.

NEW ANGLE on Statue of Liberty was achieved from a helicopter by *Ted Donaldson* of New York. 'Copters, while less available than planes, perform shuttle service at some large airports, offer unusual camera viewpoints on familiar subjects.



FAMOUS BUILDINGS offer new interest from the air. This is Jefferson Memorial in the nation's capital.
FARM BUILDINGS, too, make striking studies. Author shoots all travel pictures in color. These were reproduced from slides.

incidentally, does not increase the exposure) tints the aerial haze just enough to counteract the excessive bluishness that would otherwise result. Before and after these hours the sunlight itself is sufficiently yellowish so that you need no Skylight Filter.

exposure

For exposure with Daylight Type Kodachrome film, I have standardized on 1/200 second at f/4. You should always use the highest possible shutter speed for aerial pictures, contingent upon lens aperture and film speed requirements. Since ground objects are "at infinity," there is no depth of field problem. With the maximum aperture of the 90mm Elmar at f/4, the shutter speed will fall naturally on 1/200 second to obtain a correctly exposed Kodachrome slide. Note that this exposure is ½ stop less than the normal "ground" exposure for objects in sunlight, but the difference is correct to compensate for the extra bit of light bounced around by the atmospheric haze. The 1/200 second speed also will help to eliminate lack of sharpness due to plane vibration and stop "ground motion" when you are flying as low as about 3,000 feet.

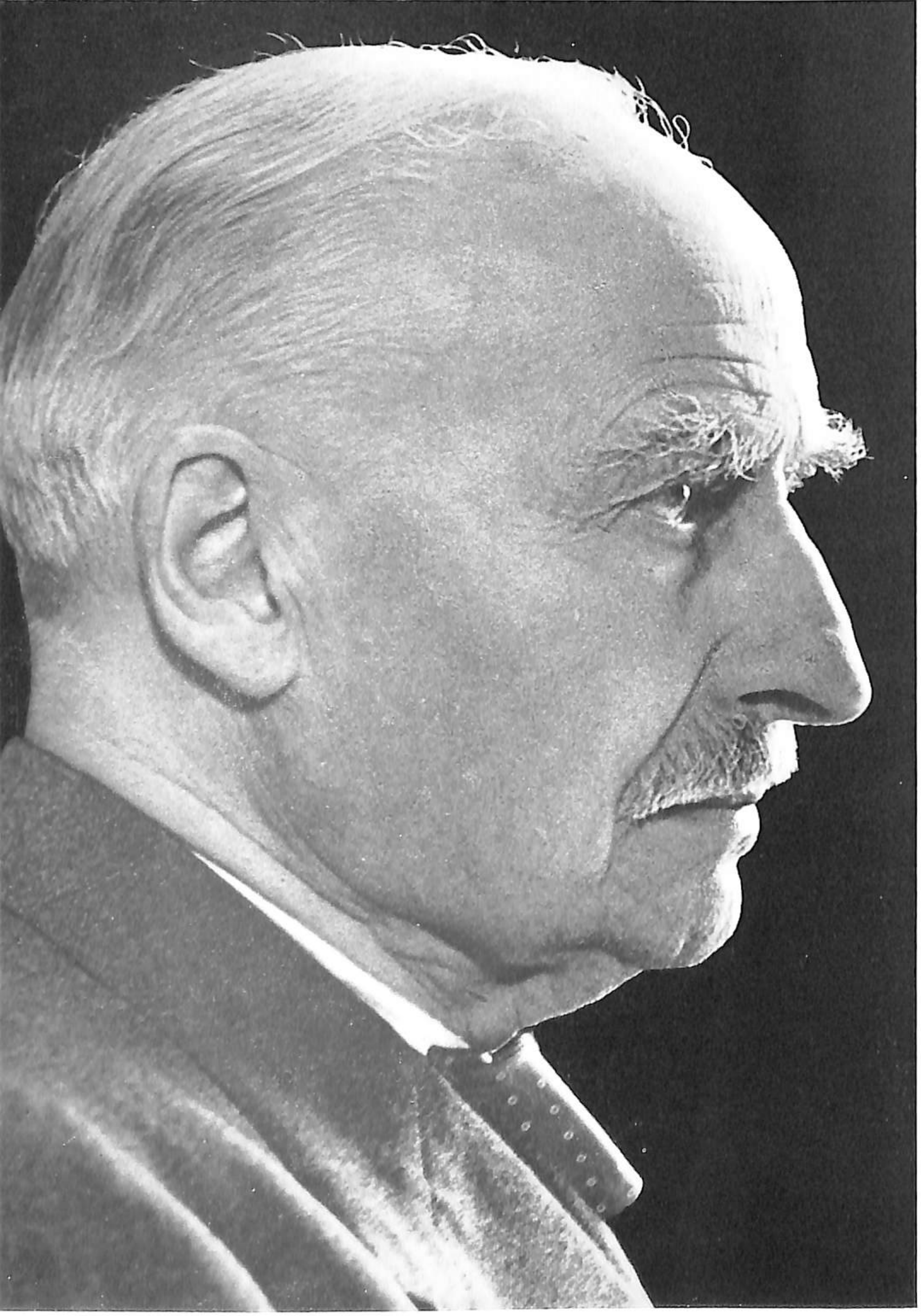
With the new, fast (three times the speed of Kodachrome) daylight color films, you can take advantage of the extra speed by doubling the shutter speed. Even after boosting shutter speed you'll have film speed to spare, which you can use by closing the diaphragm down about ½ stop.

When you are coming in to land or shortly after you have taken off, by all means pan your camera with the subject. This is advisable even with a high shutter speed, in order to obtain as sharp a picture as possible. Watch for clover-leaf turns on the new express highways, the crisscross of airport runways, lines of parked cars near a factory, the "new look" in circular-drive and city planning, or a railroad yard with perhaps a switch engine belching clouds of steam and smoke.

When I project new air-trip slides to the family for the first time, we often play the game "What is it as seen from the air?" This involves identification of objects—all the way from a chicken farm to a sulfur-refining plant. Recently I have been adding cloud formations—typical as well as spectacular—to test their powers of identification.

There is a whole world of picture subjects available from your seat in the air. The next time you travel by plane, the foregoing suggestions may be helpful—providing the weather is not a hindrance. And what may have been a boring routine to many a businessman could become an entertaining pastime.

CLOUDS ALONE make fascinating aerial "landscapes."



Dr. Ernst Leitz, Sr.

the "godfather of the Leica" is 85 this year

"Too small!"

"A nine-day wonder!"

"It won't sell!"

So claimed skeptics around the conference table where the fate of the Leica was decided in 1923. Conservative microscope makers at Ernst Leitz, G.m.b.H., had been voicing well-considered objections for hours.

At last the forceful head of the organization put an end to the discussion.

"Gentlemen, we will produce the camera!"

Thus did Dr. Ernst Leitz, Sr., son and namesake of the firm's founder, give the world an entirely new kind of photography. He turned a laboratory novelty into the most famous product of its kind in the world.

On his 85th birthday last month, Dr. Ernst Leitz, Sr. could be justifiably proud of his family's business and his contribution to it. When his father first became a partner in the firm that was later to bear his name, its total output was 70 microscopes per year. And there was fear that things might slack off.

Today, the Leitz firm employs more than 6,500 people to make Leica cameras, lenses, and accessories, as well as the world's finest microscopes, binoculars, and many other optical instruments.

From the beginning the firm was a family undertaking. As a young man, Dr. Leitz, Sr. worked with his older brother, Dr. Ludwig Leitz, in the management of their father's company. In 1898, a tragic riding accident killed Dr. Ludwig Leitz at 31. Dr. Ernst Leitz, only 27, carried on to lead the company to the great fame and productivity it now enjoys.

And just as Dr. Leitz, Sr. took over responsibility for his father's firm, so are his own sons supervising activities today. Dr. Ernst Leitz, Jr. (who recently turned 50) and his brothers, Dr. Ludwig Leitz and Günther Leitz, have active charge of all Leitz operations. And they carry on the tradition of combining precision craftsmanship with quantity production techniques, with the able assistance of Dr. Henri Dumur, their uncle, who has for many years directed commercial activities.

In great part, this tradition comes directly from the clear thinking and initiative of Dr. Leitz, Sr. Soon after entering the family business, his ideas and interest in methods engineering showed results. In 1907 Dr. Leitz, Sr. saw the first modern factory building replace the small workshops upon which his father had built the business. And within the next eight years, the firm produced the first binocular microscope with monocular objective ever made commercially. During this time, Leitz polarizing microscopes also became pre-eminent, thanks to the contributions of the famous optical designer, Dr. Max Berek, who later computed the first lens for the Leica camera designed by the ingenious Oskar Barnack.

But machines and production techniques never kept the thoughts of Dr. Leitz, Sr. far from the welfare of his "family" of employees. For years, he knew thousands of craftsmen by their first names.

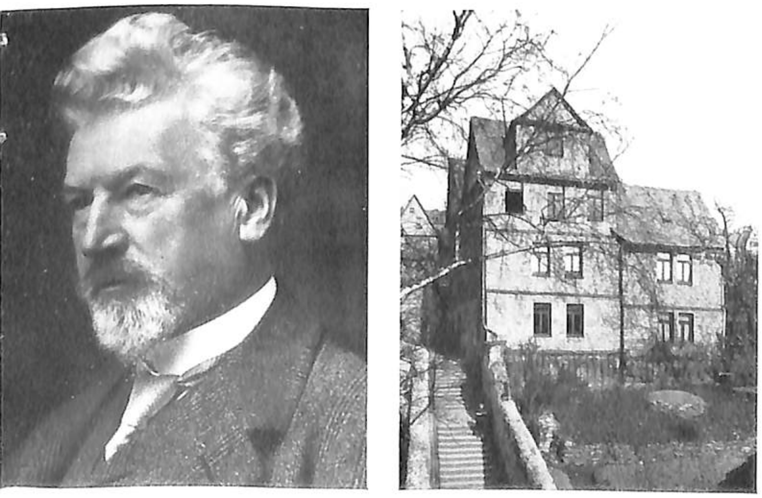
Long before Social Security arrived in this country, the Leitz firm began a pension plan for retired workers and a loan fund to which employees could turn for money for homes and other worthy purposes. Before World War I, Leitz employees enjoyed a 48-hour week—then a nearly unheard-of luxury.

Dr. Leitz's genuine liking and concern for his fellow man have brought rewards that are at once intangible and invaluable—the respect and high morale of those who make Leitz products.

From the summit of his 85 years, Dr. Ernst Leitz, Sr. sees two vistas—both of them pleasant. Looking back, he can see the long, productive years of his father's work and his own. These years saw the names "Leitz" and "Leica" stamped indelibly on the pages of optical history.

Dr. Leitz, Sr. can also look forward to the busy landscape of the future in which his sons will carry on traditions more than 100 years old. It holds the promise of even greater things to come. But whichever prospect he finds more pleasant, Dr. Ernst Leitz, Sr. was assured of a happy anniversary by the love and admiration of family, employees, and friends, and the satisfaction of a job well done.

Leica Photography and, we are sure, Leica owners all over the world, join in sending him congratulations—with special thanks for having the vision that gave the Leica to the world.



THE FIRST DR. ERNST LEITZ, founder of today's firm, first went to work at the optical workshop-dwelling of Carl Kellner (below) at the age of 21. Within a year he was a partner in the firm.

MODERN LEITZ FACTORY employs more than 6,500 people. Dr. Ernst Leitz, Sr., now entrusts to his sons a family tradition of progressive management and meticulous optical craftsmanship.

successful close-ups

Norman Rothschild

hints and tips on the many phases of macrophoto technique

One of the first and perhaps most frequent questions about close-up photography is, "Do I need a special lens or will my present one do?"

Every current Leica lens can make good close-up photographs. However, some do a better job than others. Speed lenses such as the f/1.5 Summarit and Summarex work best at normal picture-making distances and at the wider apertures used in available-light photography, conditions for which these lenses were specifically designed. You can make acceptable close-ups with speed lenses, but using them for this kind of work doesn't make any more sense than using a sports car in city traffic. The same is true for the 200mm and 400mm Telyt lenses, which were designed for long-distance shooting.

The 50mm Elmar f/3.5, 90mm Elmar f/4, 135mm Hektor f/4.5, and 35mm Summaron f/3.5 are the Leica lenses generally recommended for best results in close-up photography. The 50mm Summicron, although it is a speed lens, does make very good close-ups. However, if you must choose between it and the 50mm Elmar f/3.5 for macrophotography, then pick the latter. Its corrections stand up better at close range, and also, it stops down to f/22 (the Summicron to f/16), so that you can get more depth of field.

focal length

You may have noticed that for close-up photography, Leica literature recommends a combination of 135mm Hektor, Bellows Focusing Device, and Visoflex. This combination can tackle a variety of subjects at distances from infinity to so close that subjects will be rendered 1:1, or life-size, on the film. Also, it offers reflex focusing—useful in close-up work.

But that's not all there is to it.

A 135mm lens for close-ups has certain advantages over lenses with shorter focal lengths. With it you need not approach the subject as closely for a given magnification as you would with a shorter focal-length lens. For example, with the 135mm Hektor giving a 1:1 magnification, the lens-to-subject distance would be a little more than 10½ inches. This leaves us room for light and plenty of finger space to change filters and adjust diaphragms and subject matter. With a 50mm lens at 1:1 magnification, lens-to-subject distance is only about 4 inches!

Room to work in is not the only consideration. The 135mm lens has a narrower angle of view than a shorter lens. This cuts out much of the distracting background that might otherwise show in your pictures, and helps concentrate attention on the subject—and isn't this the intent of most close-ups? There is also less foreshortening with a longer lens (see Fig. 1).

Finally, keep in mind that the 135mm Hektor stops down to f/32. This is valuable for getting a little more depth of field, often badly needed in close-up work.

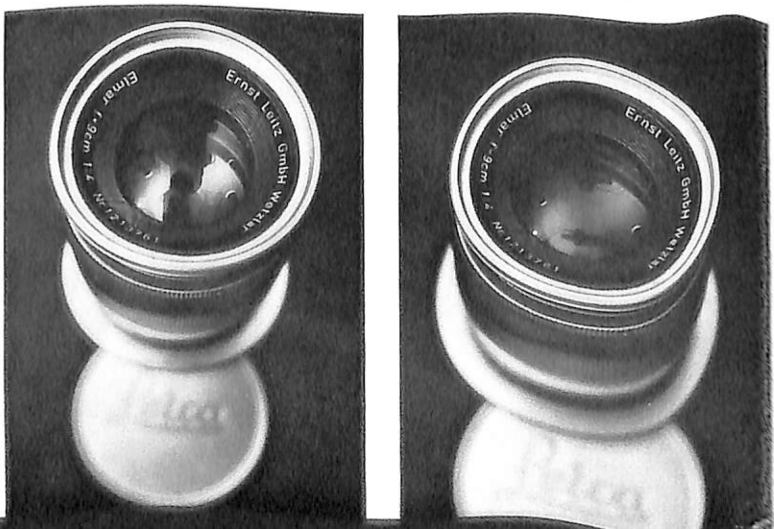
(The 90mm Elmar, when used with the Bellows Focusing Device and the Focaslide, also has a wide picture-making range. It also stops down to f/32. Used with the Bellows *and* Visoflex, it offers the conveniences of reflex focusing, but in a more limited focusing range.)

Perspective and foreshortening are, of course, unimportant in photographing flat objects, as in copy work. Also, for this purpose, lenses need not be stopped down to gain depth of field; here small apertures are used to make up for possible minor errors in focusing.

filters

The same principles that apply to use of filters in ordinary photography apply also in macrophotography. (See "How To Use Filters," *Leica Photography*, Summer 1955, and "Wizard Of The Gadget Bag," *Leica Photography*, Fall 1955.) You will especially appreciate high-quality filters when you use them for close-ups. In ordinary photography a relatively poor filter may give you results that seem acceptable. But

Fig. 1. LESS FORESHORTENING and less distracting background area result from using long focal-length lenses for close-ups. Left photo made with 50mm lens; right photo with 135mm lens.



Ed.: This is the second of two articles on close-up techniques. The first, on the Bellows Focusing Device, also written by Norman Rothschild, appeared in our Winter 1955 issue.

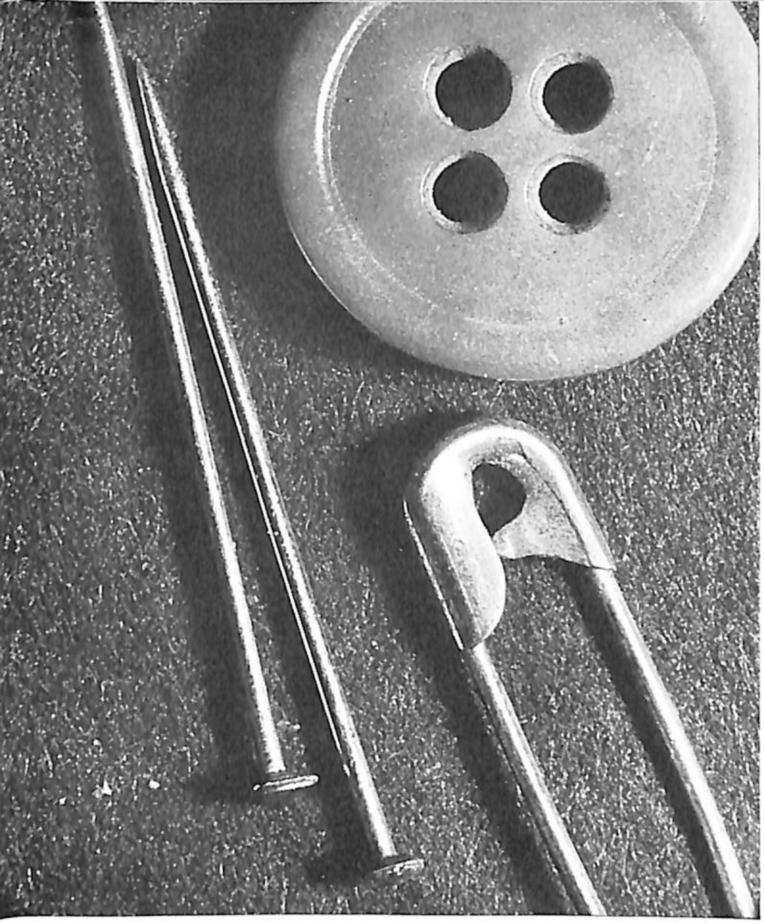


Fig. 2. PINS AND BUTTONS take on new character on close-up examination with the camera. Subject was 12 inches away.

at close range a poor filter will make a very apparent difference.

For critical sharpness in close-up work with filters, you should focus with the filter in place. If this is impractical because the filter color is disturbing or because you are using a dense filter, substitute an almost colorless filter (such as a Leitz UVa or Skylight) while you focus. Then replace it with the one needed to make the shot.

lighting

The lighting principles of ordinary photography generally work for close-ups.

Side or cross-lighting brings out texture and makes objects appear three-dimensional. Low-contrast front lighting is generally used and recommended for color shots, since color differences provide enough contrast and tonal separation. But you can also use cross-lighting to emphasize texture in color photography. Just make sure that the shadows are well lit. For best results, the illumination on shadows and highlights should not exceed a ratio of more than one to four.

Long exposures, often needed in close-up photography where long bellows extensions, high magnifications, and small diaphragm openings are used, greatly increase the possibility of blurred pictures due to camera motion, subject motion, or both. And you may even have trouble getting the light on the subject when the lens is very close to it.

One answer to these and other lighting problems in close-up photography is provided by an electronic flash unit such as the Braun Hobby. The light from electronic flash is cool. Its rapid flash (1/1000th of a second for the "Hobby") practically eliminates the danger of blur from camera or subject motion. What's more, if the reflector is placed close—say 12 inches from the subject—the light intensity is much brighter than that of sunlight. When the reflector is so employed, unless it is aimed very carefully the light may not strike the subject evenly or with full force. Also, lamp-to-subject distance must be measured very accurately if consistent exposures are to result.

I use the simple homemade gadget shown in Figure 3, which helps aim the light and place it at the proper distance for exposure calculations. A chart containing suggested exposures for various combinations of f/openings, films, and magnifications appears on page 29. Figures 2 and 4 show what you can get with this easily constructed setup.

If you don't own electronic flash, you can boost the light in other ways. Outdoors, in sunlight, you can use mirrors and reflectors to direct extra light at your subject. Indoors, with artificial light, you may be tempted to bring photoflood lamps very close to the subject. If you do this, be careful that you don't damage your equipment or even the subject with the intense heat from these lamps.

A good plan is to do the preliminary work with low-watt household lamps in your reflectors. Then replace these with floods when you're ready to make exposures.

Spotlights, reflector-spot-type photoflood lamps, or the light from a slide projector used as a spotlight are convenient means for directing light exactly where you want it. Since these can be used at greater distances from the subject than ordinary floods, potential danger to equipment is reduced.

focusing hints

Before trying to focus the image on the groundglass of either the Visoflex or the Focaslide, be sure that the magnifier has been adjusted to the plane of the groundglass surface. In the Visoflex you do this by moving the magnifier up or down until the black circle on the groundglass is sharp. In the Focaslide you do this by bringing the black pattern in the clear area into focus.

When using a 4x or 5x magnifier with the Focaslide, use the groundglass for focusing, not the clear area! The clear area in the Focaslide is used to focus an *aerial* image with the 30x magnifier. When using the 30x magnifier, bring the black pattern into focus first and *keep it in focus while adjusting the image*

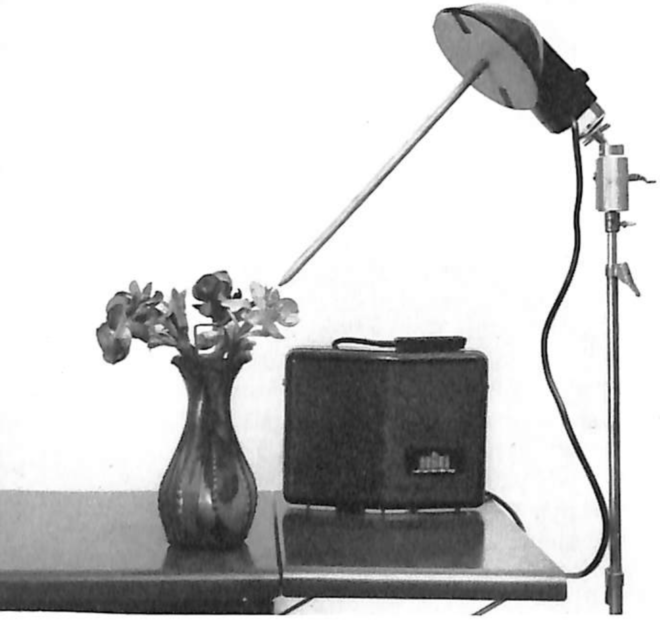


Fig. 3. HOMEMADE LIGHT "pointer" places and aims the light. Attach 12-inch dowel to cardboard disk, tape disk to flash reflector.

in the clear area. The 30x magnifier shows the clear area only. To compose the picture, you must remove it so that you can see the whole groundglass. Or you may want to replace it with a 4x or 5x magnifier. An additional check on sharp focus when using the clear area is what is known as the parallax method of focusing. After you bring the aerial image into sharp focus, move your head slightly from side to side. If the image is in proper focus, it will remain stationary; if not, it will move when you move your head.

choice of film

The best balance between speed, fine grain, resolution, and good gradation will be found in a medium-speed film such as Adox KB-17. Where there is little danger of subject or camera motion you may want to take advantage of the extra-high resolution and practically grainless characteristics of a slow film, such as Adox KB-14. To retain the full emulsion speed and resolution of these films, use a compensating developer such as Neofin Blue or FR X-22. When you have to make extremely short exposures, a fast film such as Adox KB-21 is in order. Super-speed films such as Ilford HP-3 and HPS, Kodak Tri-X, or DuPont SX, allow the very shortest of exposures, but you must sacrifice some resolution and gradation when you use these high-speed emulsions.

The new color films, Anscochrome and Kodak E-2 Ektachrome, should be used for the shortest possible color exposures. For short exposures in color, a daylight-type film used with electronic flash is an excellent combination.

copying

For full-scale rendering of continuous-tone subjects (photos, paintings, etc.) choose a medium-speed film. Develop this film in a soft-working developer (Adox KB-17 in FR X-22, for instance) in slightly less than the normal developing time (about 20 per cent less).

For extra-contrast subjects, where you must retain detail in both highlight and shadow, choose a fast film and develop it in slightly less than normal time in a soft-working developer.

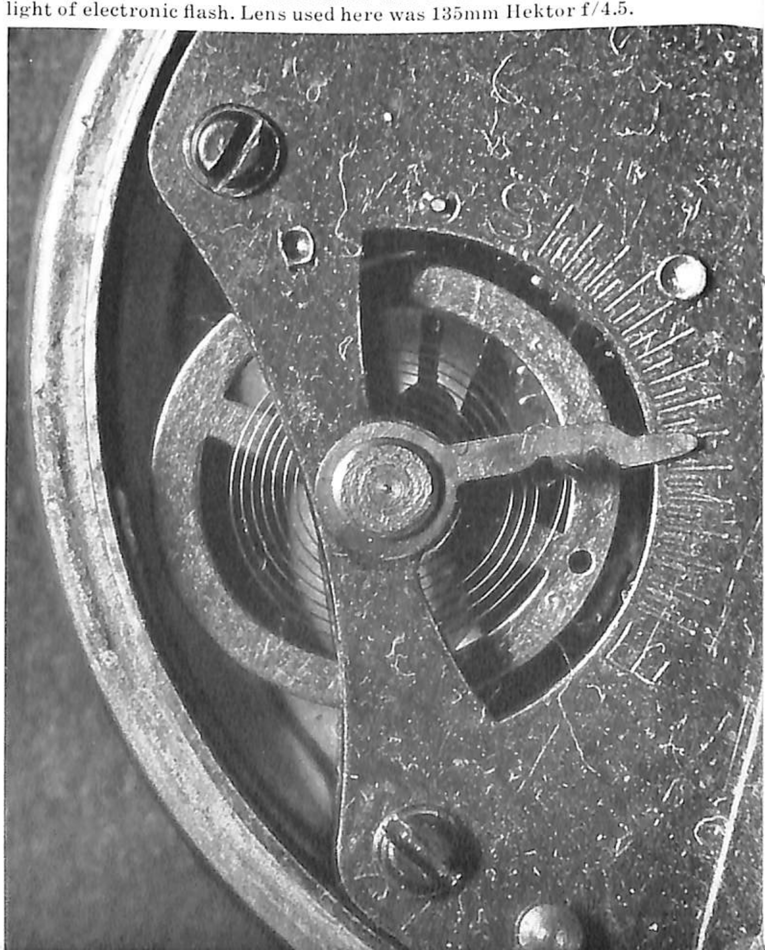
For copying line matter (charts, printed text, line drawings, etc.) choose a special film such as Kodak Microfile or DuPont Microcopy. These should be developed according to the manufacturers' directions. Where color sensitivity and best resolution are not needed you can use positive films for either line or continuous-tone copy work. These are inexpensive, and you can handle them under the same safelights used with enlarging papers.

exposure calculation

A good photoelectric exposure meter is essential in close-up photography. However, you may find it difficult to get accurate readings of very small objects when using a reflected-light meter. If so, try the incident-light method of exposure determination. This is simple with the incident-light attachments furnished for Leica Meters.

If you don't have a meter that reads or can be converted to read incident light, then take a reflected-light reading from a gray card (such as the gray side of a Kodak Neutral Test Card), substituted for the subject and pointed toward the lens. This method is best for continuous-tone matter when you use

Fig. 4. MOVING PARTS of watch stand still in the 1/1000-second light of electronic flash. Lens used here was 135mm Hektor f/4.5.



suggested exposures for close-ups

USING THE BRAUN HOBBY "100"‡

	MAGNIFICATION RATIO	KB-14*	KB-17*	KB-21**
flash at 12 inches	1 to 1.0	f/16	f/22	f/32
	1 to 2.0	f/9	f/12.5	f/18
	1 to 4.0	f/6.3	f/9	f/12.5
flash at 6 inches	1 to 1.0	f/32	.....	.....
	1 to 2.0	f/18	f/25	.....
	1 to 4.0	f/12.5	f/18	f/25

These are suggested exposures for average subject matter to yield negatives of average density; dark subjects may require more exposure, light subjects less. Individual conditions vary. Use these values as a guide only.

‡ Exposures are calculated for one lamp positioned at approximately a 45° angle to plane of subject. Use a reflector for extra shadow illumination. Allow ¼ to ½ stop less exposure when reflector is used at distance equal to lamp-to-subject distance.

Negatives of similar quality to those made with the Braun Hobby were obtained with No. 6 or No. 26 lamps at a shutter speed of 1/100 sec. The light was positioned in the same way as the Hobby flash head.

* Developed in FR X-22 or Neofin.

** In conventional developers.

Note: If films other than Adox are to be used, here are rough equivalents:

KB-14: None
KB-17: Kodak Panatomic-X; Ansco Supreme; Gevaert Microgran
KB-21: Kodak Plus X

reflected light. With line copy, take readings from a white card of 90 per cent reflectance (such as the white side of a Kodak Neutral Test Card) and multiply the indicated exposure by five. Incident-light meters can be used in the usual way—pointing at the lens from subject position.

sharpness – additional hints

An important point often overlooked or slighted by close-up photographers is the elimination of vibration from various sources. A frequent source of trouble is a poor tripod. Don't be tempted to sacrifice tripod sturdiness for less weight and smaller size. A sturdy tilt-top (such as the large Leitz Ball-and-Socket Tripod Head, No. 14,115) will permit you to get any desired camera angle. As a matter of fact, if you do much close-up or copy work in the field, a Leitz Portable Reproduction Outfit (No. 16,740) is a good investment. This provides steady support under adverse working conditions.

Another aid in eliminating vibration is a good cable release. Choose the longest available, so that vibration from your body will be absorbed as much as possible before reaching the setup. (Leitz cable releases are supplied in lengths of 10 and 20 inches, and a 10-foot cable release is supplied for all Leicas except the M-3.) Always wait for vibration to subside before making pictures. The times for such waiting include: after setting diaphragm or shutter, after replacing filters, and after transporting film.

Close-up photography embraces a great variety of subjects and a wide scope of application. The foregoing hints on technique provide a working basis of fundamentals. Success will be measured by how well these hints are applied to your own needs.

a method for copying transparencies

copying set up: Opal glass, masked to an opening slightly larger than the transparency dimensions of 24 x 36 mm., is mounted firmly on four blocks or similar objects. The slide is placed on top.

film:
Adox KB-17 (to be developed in FR X-22 or Neofin);
Kodak Panatomic-X (to be developed in D-76 or D-23).

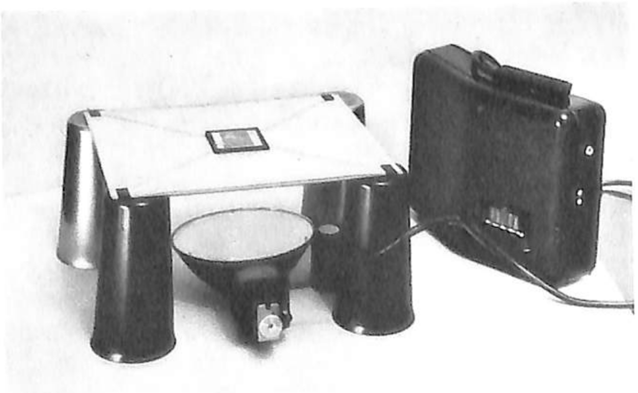
illumination:
Secure the flash head of the Braun Hobby "100" directly beneath the opening in the glass, at about 4 inches away, with the light beam adjusted to the 70° (wide-angle) position. When focusing, substitute an ordinary 100-watt lamp for the electronic flash head.

suggested exposures:*

1 to 1.0 magnification: f/16
1 to 2.0 magnification: f/9 (between f/11 and f/8)
1 to 4.0 magnification: f/6.3 (between f/8 and f/5.6)

copying in color:
Increase the above exposures by one stop for the experimental copying of color slides on Anscochrome or Ektachrome.

*Exposures given are for "average" transparencies. Darker pictures may require ½ to 1 or 2 stops more exposure; lighter transparencies may require less. If negatives produced at smallest aperture setting are too dense, move the light farther away by using higher supports. Conversely, for more exposure, move the light closer.



focusing on . . .

the new Braun Hobby "Automatic." Newest member of the Braun Hobby family of electronic flash units is the 105 watt-second "Automatic." As its name implies, this new unit brings push-button simplicity to high-speed-flash photography.

The "Automatic" permits instant reduction of its brilliance to half power (50 watt-seconds) for those times during close-up work when there is danger of overexposure with full power. What's more, it can be switched quickly from wet-cell to A.C. operation. Its push-button "keyboard" gives you fingertip choice of both power source and power strength.

Like other Hobby units, the "Automatic" has a variable beam reflector that quickly shifts from 50° to 70° for wide-angle work, color temperature of 5600° K., and flash duration of 1/1000 second.

The "Automatic" has a built-in charger for its wet battery. To recharge, all you do is depress a button and plug the unit into an A.C. source. You can use the "Automatic" on alternating current of either 110, 125, 160, 220, or 250 volts, 40-60 cycles, and you can set the proper voltage on the voltage selector without ever opening up the housing.

Guide number for Daylight Kodachrome with the 50° beam is *56*; Ektachrome and Anscochrome, *75*; ASA 100 black-and-white film, *185*. At half power, just open up 1½ stops; with the 70° beam reflector setting, open up 1 additional stop.

The "Automatic" weighs only five pounds and measures 9"x6¼"x2¾". Price, complete with wet battery, A.C. line cord, and Leica connecting cord is $109.75. Cords for other cameras are available.

new Leitz 28mm lens. There's good news in the announcement of the newly computed Leitz 28mm wide-angle lens. Its aperture range is from f/5.6 to f/22 (with a click-stop diaphragm), and the angle of view is 75.4°, which is 11° greater than in the 35mm Summaron. The new lens fits all Leica models that accept screw-threaded lenses, and couples to the rangefinder. A 28mm Summaron in bayonet mount for the Leica M-3 will be available later this year. Price for the screw-mounting model is $105.

color courses. Helen Manzer, FPSA, ARPS, internationally known teacher and lecturer, will again conduct two series of color-slide courses this summer and fall. In Pacific Grove, Calif., the first group will meet June 25 to July 6, the second July 9 to July 20.

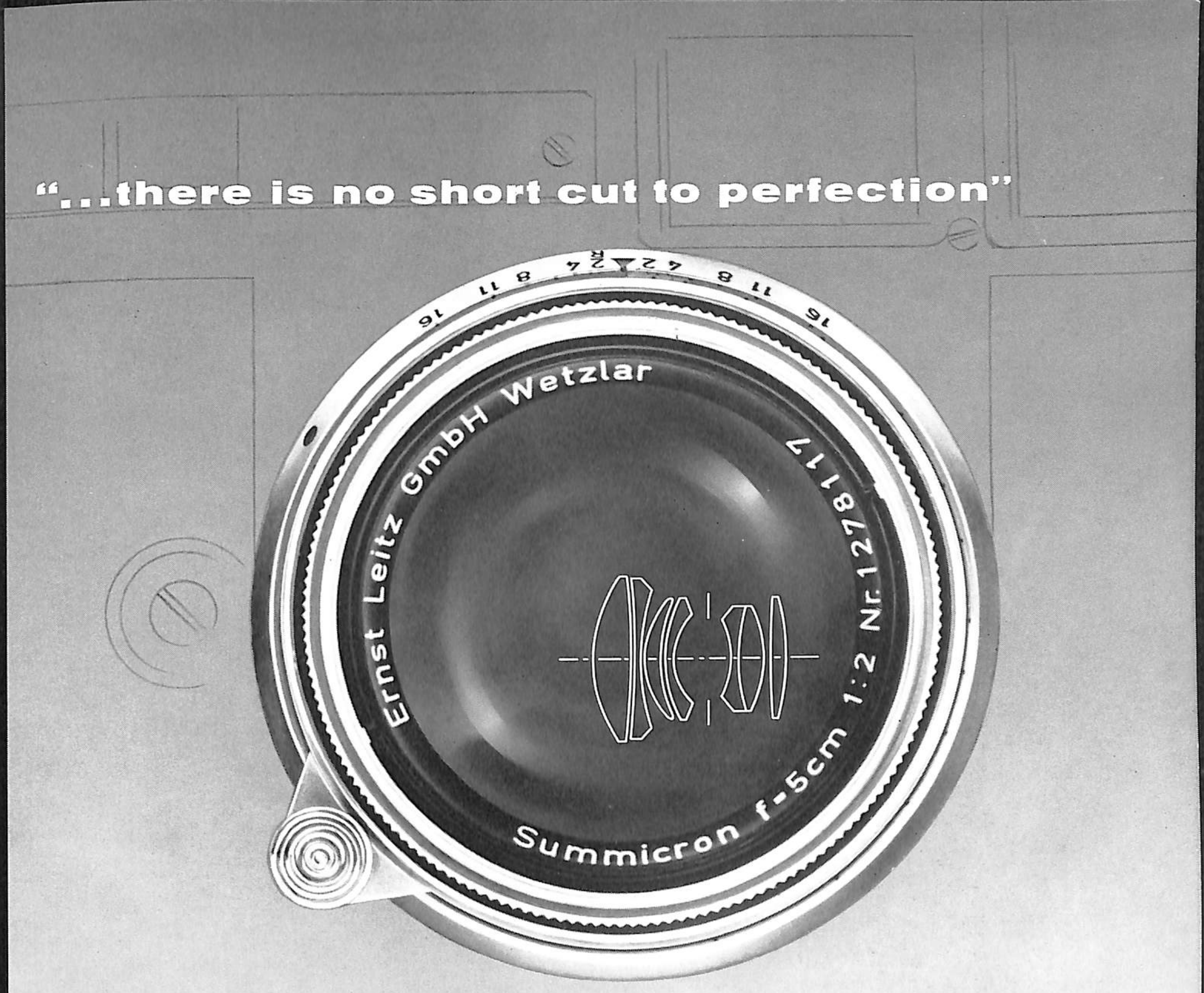
An East Coast series of courses will interpret the landscape, people, and fall foliage around Orford, New Hampshire. First course, July 30-Aug. 10; second, Aug. 13-Aug. 24; third, Oct. 1-Oct. 5. Details of the California courses from Margaret E. Wilson, Box 68, Harper Canyon Rd., Salinas, Calif. Facts about the New Hampshire courses are available from Mrs. Richard B. Pomeroy, 18 Fox Meadow Rd., Scarsdale, N. Y.

filters for Type F. You can now get two new Leitz filters especially designed for use with Type F films (see page 10). The "Type F" filter is for using Kodachrome Type F, Ektachrome Type F, or Anscochrome in daylight. The "Type FP" allows you to use photoflood bulbs. There are sizes to fit all Leica lenses.

corrections. In our Winter 1955 issue, page 30, we described how to make a double exposure on the M-3. We said to rewind *counterclockwise* to take up film slack. This should have read *clockwise*.

Also, on page 8 of the same issue, two photos somehow got reversed. They show the two positions in which it is possible to use the Braun Hobby flash reflector. The left-hand picture shows lamp in wide-angle position not normal 50° beam position as the caption states; vice versa for the right-hand picture.

We've always been a little bit in the dark about mathematics, but Bob Schwalberg's math on page 19 of the Winter issue would have put us literally in the dark, if true. He said that "a 100 per cent decrease in light...is...available" when we switch from 50° to 70° beam position with Braun Hobby units. Of course, he meant 50 per cent.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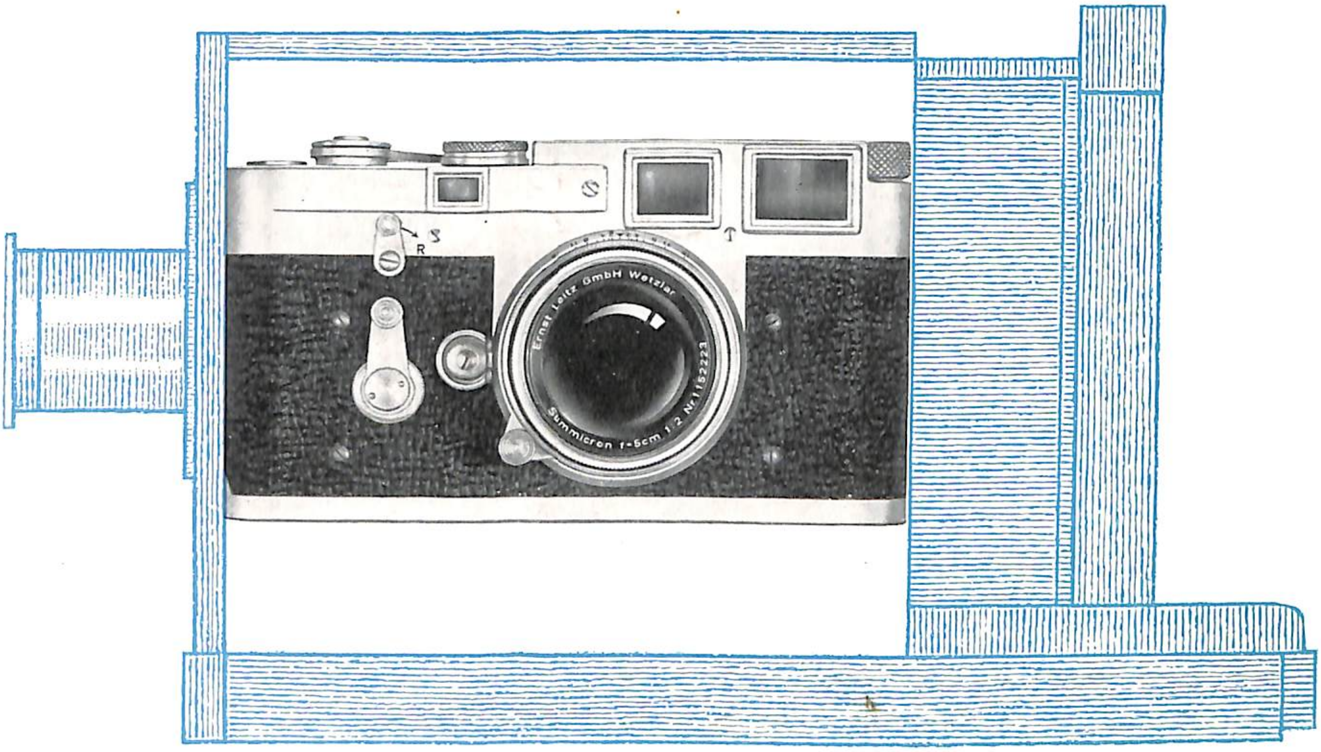

When it was first called *the magic box*, the camera was a light-tight wooden chamber, fitted with a meniscus lens, and the photographic process was a complicated series of manipulations with silver-coated copper plates, nitric acid, iodine, hot mercury baths and "hyposulphite of soda." This veritable alchemy of the nineteenth century "gave Nature the ability to reproduce itself," and was indeed magic to a public long seeking an inexpensive method of portraiture.

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